

# JVC

## SERVICE MANUAL

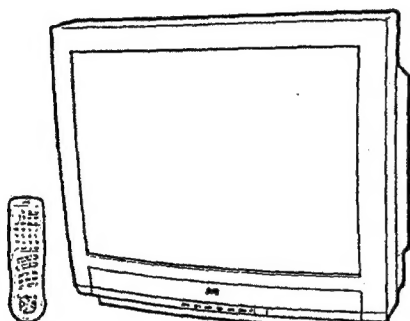
### COLOR TELEVISION

AV-27BP5<sub>(US/CA)</sub> / AV-31BP5<sub>(US/CA)</sub>

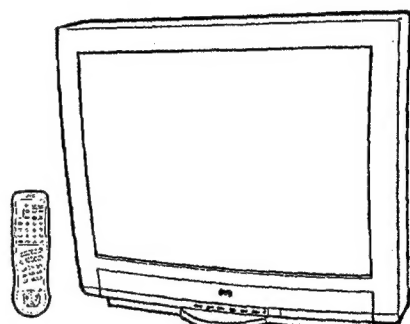
BASIC CHASSIS

GM

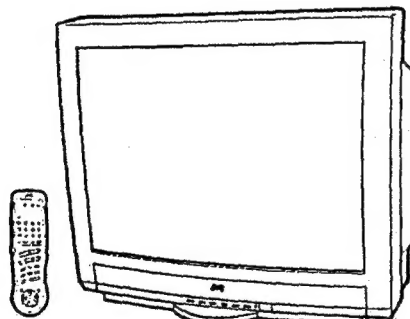
AV-31BM5<sub>(US/CA)</sub> / AV-35BP5<sub>(US/CA)</sub>



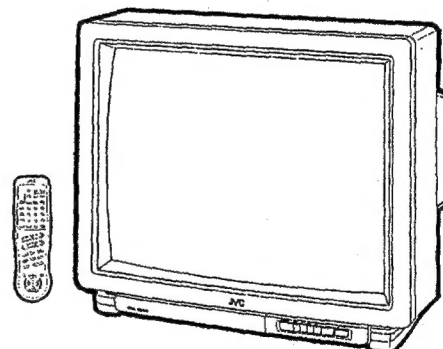
(AV-27BP5)



(AV-31BP5)



(AV-31BM5)



(AV-35BP5)

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# OPERATING INSTRUCTIONS

# JVC

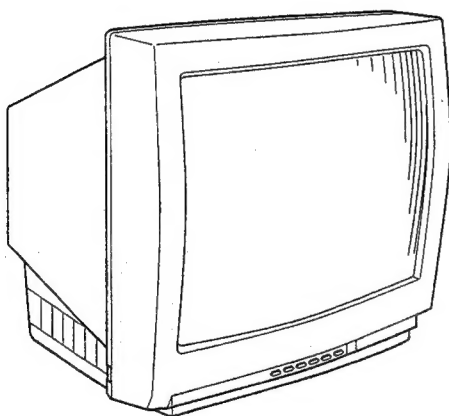
AV-27BP5 / AV-31BP5 / AV-35BP5 / AV-31BM5

COLOR TELEVISION

# USER GUIDE

Thank you for purchasing this JVC color television.  
To ensure your complete understanding, please read this manual thoroughly before operation.

- Safety Precautions on page 2 and 3
- Service Information on page 39
- Limited warranty on page 40



(The illustration above is of AV-27BP5)

## PREPARATION (page 7)

1. Connecting Antenna and Power cord
2. Inserting Batteries into your Remote control
3. Turning the Power ON/OFF
4. Presetting the Channels
5. Self-demonstration mode

## BASIC OPERATING PROCEDURE (page 10)

Watching a Television Program  
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MENU selection

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## CONNECTION (page 30)

## TROUBLESHOOTING (page 36)

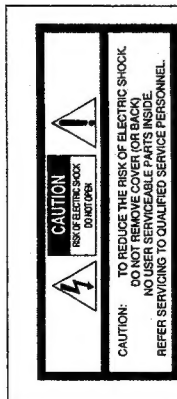
### For Customer Use:

Enter below the Model No. and Serial No. which are located on the rear of the cabinet. Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

## SAFETY PRECAUTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### CAUTION:

To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

## IMPORTANT SAFEGUARDS

**CAUTION:** Please read and retain for your safety.

Electrical energy can perform many useful functions. This TV set has been engineered and manufactured to assure your personal safety. But improper use can result in potential electrical shock or fire hazards. In order not to defeat the safeguards incorporated in this TV set, observe the following basic rules for its installation, use and servicing. Also follow all warnings and instructions marked on your TV set.

## INSTALLATION

**1** Your TV set is equipped with a polarized AC line plug (one blade of the plug is wider than the other).

(POLARIZED-TYPE)

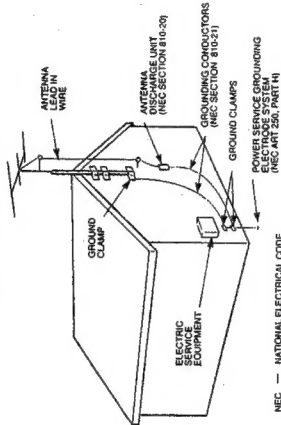


This safety feature allows the plug to fit into the power outlet only one way. Should you be unable to insert the plug fully into the outlet, try reversing the plug. If you are still unable to insert the plug, should it still fail to fit, contact your electrician.

**6** If an outside antenna is connected to the TV set, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection requirements for the grounding electrode.

**7** An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, where it can fall into such power lines or circuits. When installing an antenna system, extreme care should be taken to keep away from such power lines or circuits as contact with them might be fatal.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE



**8** TV sets are provided with ventilation openings in the cabinet to allow heat generated during operation to be released. Therefore:

- Never block the bottom ventilation slots of a TV set by placing it on a bed, sofa, rug, etc.
- Never place a TV set in a "built-in" enclosure unless proper ventilation is provided.
- Never cover the openings with a cloth or other material.
- Never place the TV set near or over a radiator or heat register.

To avoid personal injury:

- Do not place a TV set on a sloping shelf unless properly secured.
- Use only a cart or stand recommended by the TV set manufacturer.
- Do not try to roll a cart with small casters across thresholds or over pile carpets.
- Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

## USE

**10** Caution children about dropping or pushing objects into the TV set through cabinet openings. Some internal parts carry hazardous voltages and contact can result in a fire or electrical shock.

**11** Unplug the TV set from the wall outlet before cleaning. Use a slightly damp (not wet) cloth. Do not use liquid or an aerosol cleaner.

**12** Never add accessories to a TV set that has not been designed for this purpose. Such additions may result in a hazard.

**13** For added protection of the TV set during a lightning storm or when the TV set is to be left unattended for an extended period of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to product due to lightning storms or power line surges.



**14** TV set and cart combination should be moved with care. Quick stops, excessive turning, and uneven surfaces may cause the TV set and cart combination to overturn.

## SERVICE

**15** Unplug this TV set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power cord or plug is damaged or frayed.
- If liquid has been spilled into the TV set.
- If the TV set has been exposed to rain or water.
- If the TV set does not operate normally by following the operating instructions. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV set to normal operation.
- If the TV set has been dropped or damaged in any way.
- If the TV set exhibits a distinct change in performance — this indicates a need for service.

**16** Do not attempt to service this TV set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**17** When replacement parts are required, have the service technician verify in writing that the replacement parts he uses have the same safety characteristics as the original parts. Use of manufacturer's specified replacement parts can prevent fire, shock, or other hazards.

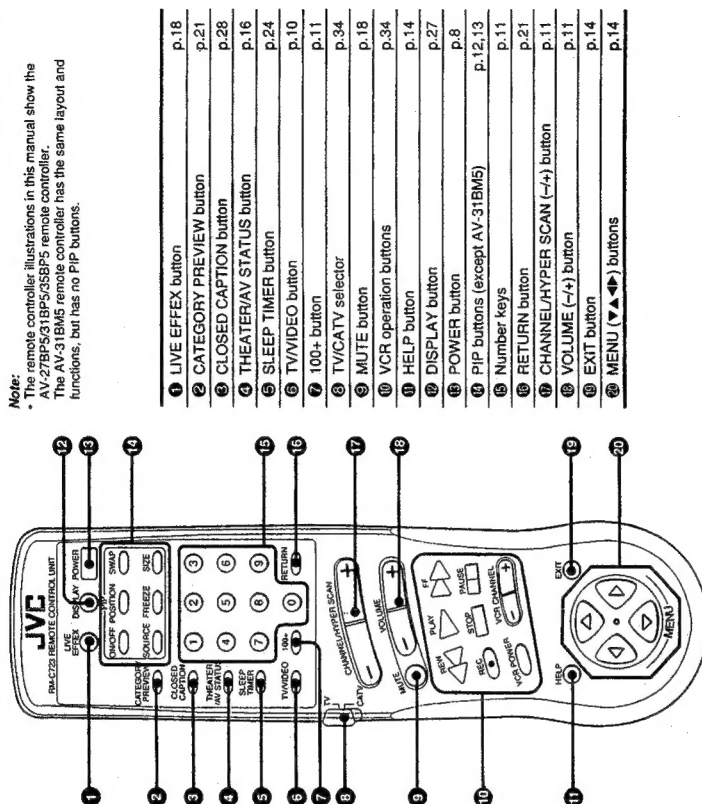
**18** Upon completion of any service or repairs to this TV set, please ask the service technician to perform the safety check described in the manufacturer's service literature.

**19** When a TV set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the TV set.

Note to CATV system installer.

**20** This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

# Locations of Remote control buttons



Note:  
• The remote controller illustrations in this manual show the AV-27BP5/31BP5/35BP5 remote controller.  
The AV-31BM5 remote controller has the same layout and functions, but has no PIP buttons.

1	LIVE EFFECT button	p.18
2	CATEGORY PREVIEW button	p.21
3	CLOSED CAPTION button	p.28
4	THEATER/AV STATUS button	p.16
5	SLEEP TIMER button	p.24
6	TV/VIDEO button	p.10
7	100+ button	p.11
8	TV/CATV selector	p.34
9	MUTE button	p.18
10	VCR operation buttons	p.34
11	HELP button	p.14
12	DISPLAY button	p.27
13	POWER button	p.8
14	PIP buttons (except AV-31BM5)	p.12,13
15	Number keys	p.11
16	RETURN button	p.21
17	CHANNEL/HYPER SCAN (←/→) button	p.11
18	VOLUME (←/→) button	p.11
19	EXIT button	p.14
20	MENU (↖/↗) buttons	p.14

• For the locations of TV buttons and parts, please refer to page 6.

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\* FOR PRODUCTS PURCHASED IN CANADA SEE SEPARATE SHEETS FOR WARRANTY/GARANTIE AND JVC AUTHORIZED SERVICE CENTERS IN CANADA.



# Locations of TV buttons and parts

## FRONT PANEL

AV-27BP5/AV-31BP5/AV-31BM5

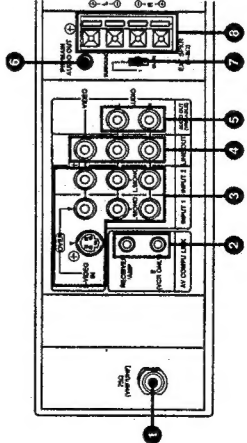


AV-35BP5



1	MENU (▼) button	p.6
2	OPERATE (◀/▶)/CHANNEL (←/→) buttons	p.6, 11
3	VOLUME (↑/↓) buttons	p.11
4	POWER/ON TIMER lamp	p.8, 25, 26
5	POWER button	p.8

## REAR PANEL



1	Antenna terminal	p.7
2	AV COMPU LINK jacks	p.32
3	INPUT (1, 2) jacks	p.30
4	LINE OUT jacks	p.30
5	AUDIO OUT (VARIABLE) jacks	p.30
6	PIP/MAIN AUDIO OUT jack	p.30
7	EXT SPKR switch	p.31
8	EXT SPKR jacks	p.30

**How to use the MENU (▼) button:**  
• Press this button to display a list of functions. While the list is being displayed, press the button again to select the desired function; then change the level or setting with OPERATE (◀/▶)/CHANNEL (←/→).  
• Other buttons may be used by referring to the respective page of this user manual.  
• On the front panel, the MENU button and the EXIT button are not provided. To select the functions on the menu, use the MENU button. To release the TV from the MENU mode, use the VOLUME button.  
• With the MENU operation on the front panel, you cannot set LOCK CODE, CHILD TIMER and the channel guard.  
• When you activate the MENU mode on the front panel, the FRONT PANEL CONTROL menu will be displayed on the first page of the menus. The other menus after the first page are the same as those displayed on the operating remote controller. (Refer to page 14.)

### Note:

- The front panel and rear panel illustrations in this manual show the AV-27BP5 and AV-35BP5 panels. Other models have the same button and terminal layout as the AV-27BP5, but the AV-31BM5 rear panel has no PIP/MAIN AUDIO OUT jack.

## Notes (also refer to "CONNECTION" on pages 30 to 35):

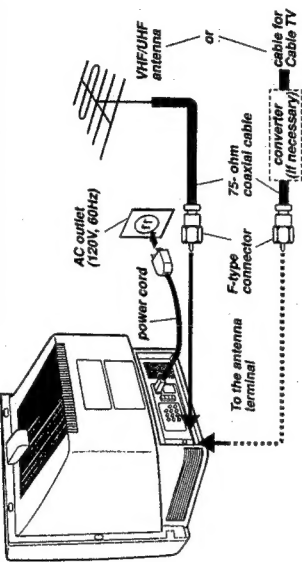
- AUDIO OUT (VARIABLE) jacks:**  
Outputs the sound of the picture appearing on the TV.  
• The output sound level can be adjusted with VOLUME (↑/↓) on the TV.
- LINE OUT jacks:**  
Output the sound and picture that are appearing on the TV.  
• A picture that is input to the S-VIDEO jack of INPUT jacks is not output through the LINE OUT jacks.  
• If both the INPUT and LINE OUT jacks are connected to the same VCR, the screen becomes distorted except during playback of VCR.
- INPUT jacks:**  
• Audio output from monaural equipment is connected to INPUT 2 jack. Audio output is connected to the MONO jack.  
• Connect nothing to S-VIDEO jack, when using the VIDEO jack of INPUT 1 jack.
- PIP/MAIN AUDIO OUT jacks:**  
Is used for connecting cordless headphones.  
• The AV-31BM5 has no PIP/MAIN AUDIO OUT jack.  
• This terminal outputs the sound of the picture that is appearing on the TV. The sound of the PIP picture is output when the PIP picture is appearing on the screen.
- Antenna terminal:** Refer to page 7.
- EXT SPKR jacks:** Refer to page 30.

# 1. Connecting Antenna and Power cord

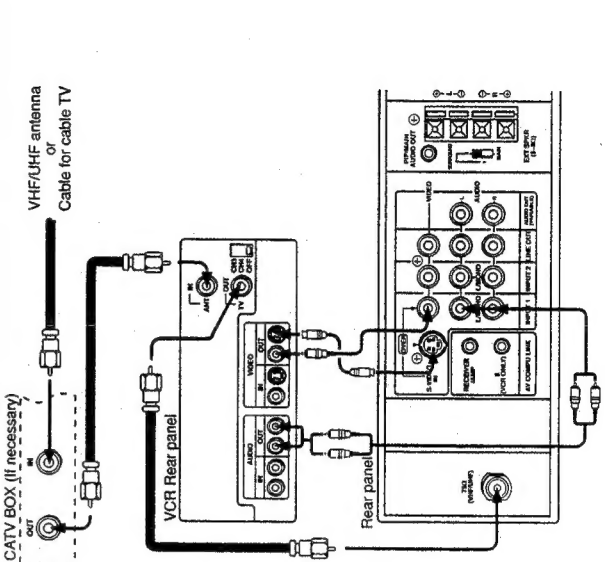
## Conditions:

- Before connecting external devices, be sure to disconnect the TV from the AC outlet.
- When you want to view from a connected device such as a VCR, change the TV input mode with TV/VIDEO. Refer to step 2 on page 10.

## (Example) No VCR connected



## (Example) VCR connected



- Notes:**
- When connecting both a cable (75-ohm coaxial) and a VHF/UHF antenna (300-ohm lead-in), use an optional antenna mixer (CE41487) to make a single connection.
  - With this antenna mixer, reception of cable channels higher than "Channel W-17" is not possible.
  - The power cord is supplied with a polarized plug. Therefore, it will only insert one way into the wall outlet. DO NOT DEFEAT THE POLARIZED PLUG. If you have difficulty, consult your local dealer.
  - Some cable companies require a converter box to receive all available programs. Others may require it for subscription or "premium" programming. Consult your local cable company for correct installation.

### Notes:

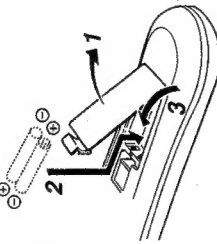
- Refer to the manuals provided with the other devices.
- Interference from connected devices may cause the picture quality to deteriorate. If picture noise occurs, turn off devices that you are not using or move them further apart.
- Connect the video signal of S-VHS VCR to S-VIDEO jack.

## 2. Inserting Batteries into your Remote control

**1** Raise up the latch on the cover to remove it.

**Condition:**  
• Use two AA/RN03 batteries.

**Caution:**  
• Follow the cautions printed on the batteries.

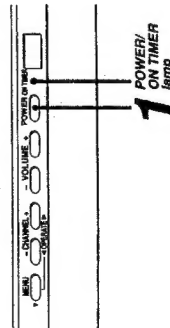


**Notes:**  
• Battery life is approximately 6 months to 1 year depending on the frequency of use.  
• In the remote control operation, the battery life is reduced.  
• Insert batteries correctly observing + and - polarities.  
• If a manufacturer's VCR or CATV converter code has been set. The set manufacturer's code will be put in memory for the specific time. When you replace the batteries, do this within one minute. If the manufacturer's code is reset, set it again. (Refer to page 34.)

**3** Replace the cover.

## 3. Turning the Power ON/OFF

Front panel



**1** Press POWER.

The POWER/ON TIMER lamp lights up.

**Condition:**  
• When controlling with the remote control, set the TV/CATV selector to TV.

- To turn off the TV, press POWER once again.  
The POWER/ON TIMER lamp goes off.

## 4. Presetting the Channels

### —AUTO TUNER SETUP

You can set the channels which can be received. The preset channels can be selected with CHANNEL/HYPER SCAN (←+).

**1. Press MENU ▾ or ▲ repeatedly to select AUTO TUNER SETUP, then press ◀ or ▶ to enter the setting menu.**  
The AUTO TUNER SET UP menu is displayed.



**2. Press MENU ▾ or ▲ to move the cursor to AUTO (STD, HRC, IRC) or AUTO (OTHERS), then press ◀ or ▶ to select it.**  
The setting starts automatically.

- This completes the setting.  
PROGRAMMING OVER is displayed and the setting is complete.

**AUTO (STD, HRC, IRC):**  
Almost all the cable companies use one of the following systems:  
• Standard  
• Harmonically Related Carrier.  
• Incrementally Related Carrier.

**AUTO (OTHERS):**  
For other than the above.

**Notes:**  
• If you experience a problem, call your cable company. If they use a different system (not STD, HRC, IRC), repeat Step 1 and in Step 2 select AUTO (OTHERS).  
• For details on the menu functions, refer to page 14.

- If you press CHANNEL/HYPER SCAN (←+), you can confirm the set channels.
- To add a channel to those set with the AUTO TUNER SETUP or to delete one of those channels, refer to "To set a channel for scanning" on page 22.

## 5. Self-demonstration mode

### —AUTO DEMO

You can view demonstration pictures for many of this TV's functions and operations. Viewing this self-demonstration mode before operating the functions makes this TV's functions and operations easier to understand.

**1. Press MENU ▾ or ▲ repeatedly to select AUTO DEMO, then press the ◀ or ▶ key.**  
The demonstration starts.



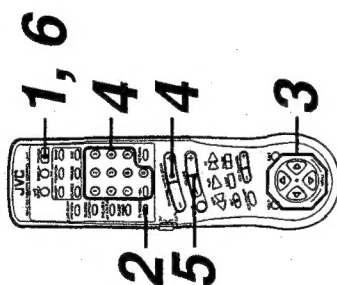
**Note:**  
• This demonstration mode is repeated in a cycle of about six minutes.

- To stop the demonstration, press any button.

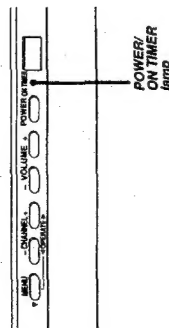
## BASIC OPERATING PROCEDURE

# Watching a Television Program

## —TV/VIDEO, TUNER MODE



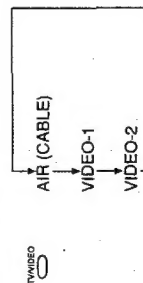
Front panel



### 1 Press POWER.

The POWER/ON TIMER lamp lights up.

### 2 If video mode (VIDEO-1, 2) has been selected, press TV/VIDEO repeatedly to switch it to AIR (or CABLE).



### 3 If necessary, press MENU $\blacktriangledown$ or $\blacktriangle$ repeatedly to select the TUNER MODE, then press $\blacktriangleleft$ or $\blacktriangleright$ to select the AIR or CABLE.

AIR  $\leftrightarrow$  CABLE

**AIR:**  
To view TV broadcast  
CABLE will be displayed if you have turned off TV after watching cable TV broadcast.

**VIDEO-1, 2:**  
To view the video being input to an INPUT 1, 2 jack. (Refer to page 30.)

**AIR:**  
To view TV over the air broadcast.  
**CABLE:**  
To view CABLE stations.

**Channel display:**  
For AIR, the channel number is displayed in light blue and for CABLE, the channel number is displayed in yellow.

**Note:**  
• The TUNER MODE (AIR or CABLE) will be automatically set by executing the AUTO TUNER SETUP.

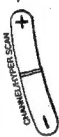
## BASIC OPERATING PROCEDURE

Watching a Television Program

## —CHANNEL

### 4 Select a channel.

Scan selection



1. Press CHANNEL ( $\rightarrow$ ).

+ : to scan UP a channel number.

- : to scan DOWN a channel number.

Direct selection



1. Press a number key.

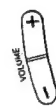
Example: To select channel 5 (single-digit channel), press 0 and 5.

Example: To select channel 35 (two-digit channel), press 3 and 5.

Example: To select channel 115 (three-digit channel), press 100+, 1 and 5.

### 5 Press VOLUME ( $\rightarrow$ ).

The level indicator appears.



+ : The bars move right and the volume increases.  
- : The bars move left and the volume decreases.

### 6 Press POWER to turn the power off.



The POWER/ON TIMER lamp goes off.

**Note:**  
• The POWER/ON TIMER lamp glows faint without turning off, while the DUAL ON TIMER or HOME STAY is in operation. (Refer to page 25.)

**CHANNEL/HYPERSCAN ( $\rightarrow$ ) BUTTON:**  
The CHANNEL/HYPERSCAN ( $\rightarrow$ ) button is a two stage button. The functions change when you press this button.

**NORMAL SCAN UP/DOWN:**  
Each time you press the button lightly (1st stage), the preset stations will be selected one at a time.

**HYPERSCAN UP/DOWN:**  
When pressing the button strongly (2nd stage), the stations can be rapidly selected. Only the channel numbers will be scanned, and a station will be selected at the point where you release the button.

**Notes:**

- Only preset channels can be selected with scan selection. (Refer to page 6.)
- NORMAL SCAN UP/DOWN is carried out through operation on the front panel.

**Note:**

- See also the CABLE TV CHANNEL CONVERSION CHART. (Refer to page 38.)

**Note:**

- This operation can also be done with VOLUME ( $\rightarrow$ ) on the front panel.

## Two-picture Screen

(The AV-31BM5 does not have this function) —PIP

Two screens (one large and one small) can be displayed at the same time. While viewing a playback picture from the VCR, you can also enjoy the TV broadcast.

### Conditions:

- Connect the playback device (VCR, etc). (Refer to page 30.)
- You can only listen to the sound of the PIP picture by using cordless headphones (not supplied). (Refer to page 30.)

PIP:  
Picture In Picture

### Note:

- Both the main screen and the PIP picture must be in the same broadcast mode (AIR or CABLE).

To display the PIP picture

—ON/OFF button

1. Press ON/OFF.

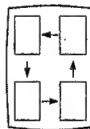
The PIP picture appears.

2. To remove the PIP picture, press ON/OFF again.

The PIP picture disappears.

To change the position of the PIP picture —POSITION button

1. Each time you press POSITION, the PIP picture changes position.



To swap between the MAIN picture and the PIP picture

—SWAP button

1. Press SWAP.

The MAIN picture and PIP picture swap their places.

To switch the PIP picture input

—SOURCE button

1. Press SOURCE repeatedly to select the desired input.

→TV mode →VIDEO-1 →VIDEO-2

TV modes:  
To view TV broadcast or cable TV broadcast, Channel number is displayed on the screen.

### VIDEO 1, 2:

To view the video being input to an INPUT 1, 2 jacks, V-1, V-2 is displayed on the screen.

To still PIP picture

—FREEZE button

1. Press FREEZE.

The PIP picture pauses.

### Note:

- If FREEZE is pressed while there is no PIP picture, the PIP picture will appear and then pause.
- If the PIP picture is paused, pressing SWAP, SOURCE, or SIZE unfreezes it.

2. Pressing FREEZE once again restores the regular picture.

To change the size of PIP picture

—SIZE button

1. Press SIZE.

The size of PIP picture changes.

# MENU selection

## —MENU, HELP, EXIT

Most of the television functions can be operated with the remote controller. When operating from menus, you can view screens explaining each function.

1. Press MENU ▼ or ▲.  
A list of functions is displayed.

Note:  
• From here on, "MENU" will be omitted from the ▲▼↔ button names.

2. Press ▼ or ▲ repeatedly to select the function you want.  
The function you have selected is displayed in yellow.

3. Press ◀ or ▶ to enter the setting screen.  
The setting screen of the selected function will be displayed.

Note:  
• To stop the operation midway, press the EXIT button

4. Following the instructions in the on-screen message, use ▼ and ▲ to move the cursor and ◀ or ▶ to make settings.

- When you have completed your settings, press the EXIT button to leave the menu screen.

## Viewing explanations of functions

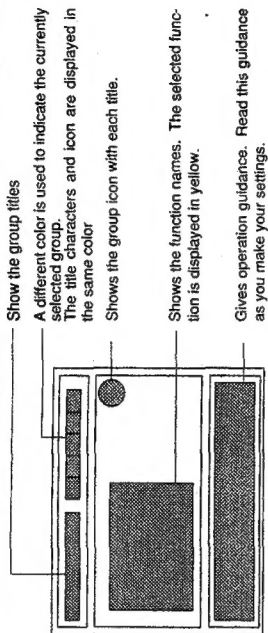
### —HELP

1. Press the HELP button during menu operations.

The screen shows an explanation of the currently selected function or of operations.

2. To return to the original screen, press the HELP button again.

## MENU Screens



## MENU Screen List

PICTURE ADJUST	TINT	p.16
PICTURE ADJUST	COLOR	p.16
PICTURE ADJUST	PICTURE	p.16
PICTURE ADJUST	BRIGHT	p.16
PICTURE ADJUST	DETAIL	p.16
PICTURE ADJUST	VNR (AV-35BP5 only)	p.16
PICTURE ADJUST	NOTCH	p.16
PICTURE ADJUST	NOISE MUTE	p.27
PICTURE ADJUST	SET AV STATUS	p.19
SOUND ADJUST	BASS	p.17
SOUND ADJUST	TREBLE	p.17
SOUND ADJUST	BALANCE	p.17
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CLOCK/TIMERS	SET CLOCK	p.24
CLOCK/TIMERS	CHILD TIMER	p.26
CLOCK/TIMERS	HOME SITTER	p.25
CLOCK/TIMERS	DUAL ON TIMER	p.25
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CHANNEL ITEMS	SET CATEGORY PREVIEW	p.20
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CHANNEL ITEMS	SET LOCK CODE	p.23
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INITIAL SETUP	AUTO TUNER SETUP	p.9
INITIAL SETUP	TUNER MODE	p.10
INITIAL SETUP	MUTE LEVEL	p.18
INITIAL SETUP	CLOSED CAPTION	p.28
INITIAL SETUP	AUTO DEMO	p.9

## Matching the TV to the current room state

### —THEATER/AV STATUS

You can select the picture ideal for the program you are watching and the condition of the room you are watching in.

1. Press THEATER/AV STATUS repeatedly to select the mode you want.

THEATER → BRIGHT ROOM → CHOICE → RESET

- The picture changes to the selected mode.  
The on-screen display disappears by itself after a few seconds.

**THEATER:**

- The picture can have softness and depth. Darken the room when viewing program to get the best effect.

**BRIGHT ROOM:**

- It is suitable for watching programs in a bright room.

**CHOICE:**

- Refer to page 19.

**RESET:**

- The sliding scales of TINT, COLOR, PICTURE, BRIGHT, and DETAIL are set at the center.

## Adjusting the picture

### —TINT, COLOR, PICTURE, BRIGHT, DETAIL, VNR, NOTCH

You can get the ideal picture according to the program and the room brightness. You may need adjust the picture to suit the current conditions.

1. Press the MENU buttons to display the picture adjustment screen.

2. Press ▼ or ▲ to select the item to set, then press ◀ or ▶ to set its level (or switch it ON/OFF).

- This completes the setting.  
To leave the menu, press the EXIT button.



**Note:**

- For details on menu operations, refer to page 14.

**Resetting picture/sound adjustments to factory settings:**

Press THEATER/AV STATUS repeatedly to select RESET.

**VNR (AV-35BP5 only)**

Video Noise Reduction

**ON:** Set to this when the picture has noise.

**OFF:** Set to this for normal picture.

**NOTCH:**

**ON:** When a dotted pattern appears at the border line of colors, and when the lines appear ragged.

**OFF:** While watching a normal screen.

**Note:**

- The selected item is displayed in yellow.

## Adjusting the sound

### —BASS, TREBLE, BALANCE

You can get the ideal sound according to the program.  
You may need to adjust the sound to suit the current conditions.

1. Press the MENU buttons to display the sound adjustment screen.

2. Press ▼ or ▲ to select the item to set, then press ◀ or ▶ to set its level.

- This completes the setting.  
To leave the menu, press the EXIT button.



**Note:**

- For MTS refer to "Listening to stereo and bilingual broadcasts" on this page.

## Listening to stereo or bilingual broadcasts

### —MTS

You can enjoy music and sports programs in stereo as well as listen to bilingual broadcasts in either language.

1. Press the MENU buttons to select MTS.

\*"ON AIR" is displayed opposite the sound type in use for the current program.

2. Press ◀ or ▶ to select the mode you want (STEREO, SAP, MONO).

- This completes the setting.  
To leave the menu, press the EXIT button.



**MTS:** Multichannel Television Sound

**Notes:**

- MTS has no effect on normal sound broadcasts.
- MTS may not function normally while you are watching cable TV.

**STEREO:**

Stereo audio program

**SAP:**

Second Audio Program

**MONO:**

This option is selected when there is a lot of noise.





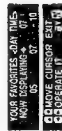
# Learning Your Favorite Channels —YOUR FAVORITES

This TV automatically memorizes the channel being received. The received channels are stored cumulatively in units of 30 minutes. The 3 most frequently watched channels can be displayed, and the one you want can be selected from this list.

## Condition:

- The built-in clock must be set. (Refer to page 24.)

## 1. Press the MENU buttons to select YOUR FAVORITES.



**Notes:**

- Two sets of your favorite channels are stored for each time period: DAYTIME or EVENING.
- DAYTIME: 4:00 am to 5:59 pm
- EVENING: 6:00 pm to 3:59 am
- If the clock is not working, this function is not activated.
- If there is a power interruption, stored channels are cancelled.

## Notes:

- Each of the 3 channels are shown for a few seconds. The channel number (or station ID), of the channel shown will blink.
- The current time band (DAYTIME or EVENING) will be displayed in the brackets.
- If you select this function when no channels are not stored, "NOT ACTIVE" is displayed on the TV screen.

## 2. Press ▼ or ▲ to move the cursor to the channel you want, then press ◀ or ▶ to select it.

- The television changes to the channel you selected and the on-screen display disappears.

# Channel selection according to Category

## —CATEGORY PREVIEW

There are six categories and you can set six channels for each category.

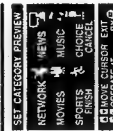
## Setting Procedure

## 1. If you need to, select the broadcast mode for the channels you will set (AIR or CABLE).

To select the broadcast mode:  
Refer to page 10 "Watching a TV program", step 3.

## 2. Press the MENU buttons to select SET CATEGORY PREVIEW.

The six categories are displayed.



## 3. Press ▼ or ▲ to move the cursor to the category you want, then press ◀ or ▶ to select it.

The channel setting menu is displayed.



## 4. Press the MENU buttons to make the settings.

- Press ▼ or ▲ to select the position to set.
- Press ◀ or ▶ to select a channel.
- Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.

## To continue setting other channels:

- To set in the same category:  
Repeat 1 and 2 of Step 4.
- To set in a different category:  
Repeat Steps 3 and 4.

## Note:

- A channel which has been set in CHANNEL GUARD cannot be set. (Refer to page 23.)

## When you select CANCEL:

All the channel settings for all the categories are cancelled.

## To select a set channel

## 1. Press the CATEGORY PREVIEW.

The 6 category are displayed.



## 2. Press ▼ or ▲ to move the cursor to the category you want, then press ◀ or ▶ to select it.

A list of channels is displayed.



## Note:

- Each set channel appears for a few seconds. The channel number (or station ID) of the channel shown will blink.

## 3. Press ▼ or ▲ to move the cursor to the channel you want, then press ◀ or ▶ to select it.

- The television changes to the channel you selected and the on-screen display disappears.

# Returning to the previous channel —RETURN

You can return immediately to the channel you were watching before.

## 1. Press RETURN.

Channels alternate between the previous channel and original channel.

# Checking and setting the channel status

## —CHANNEL SUMMARY

You can view a summary of the channel settings and can set the scanned channels, station ID, and channel guarding.

### To view the settings

1. Press the MENU buttons to select CHANNEL SUMMARY.

The CHANNEL SUMMARY menu is displayed and you can view the current settings. From this menu, you can make these settings.



### To set a channel for scanning

This sets the channels you can tune with the CHANNEL/HYPER SCAN (←→) button. You can also delete channels set with AUTO TUNER SETUP.

#### Condition:

- Before making this setting, display the CHANNEL SUMMARY menu to select the channel you want to set.

1. Press ← or → to set or delete a channel.

The scanned channels are marked J.

- This completes the setting.  
To leave the menu, press the EXIT button.

### To set station IDs

A four-character station name can be displayed together with the channel number.

#### Condition:

- Before making this setting, display the CHANNEL SUMMARY menu to select the channel you want to set.

1. Press ▼ or ▲ to move the cursor to the ID row. Press ← or → to enter the ID setting menu.

The station ID setting menu is displayed.



**SCAN:**  
Set or cancel the selected channel with the CHANNEL/HYPER SCAN (←→) button. The preset channels are marked J. The channels preset with AUTO TUNER SETUP are also marked J.

**ID:**  
Set a station name of up to 4 characters. You can set station names for up to 50 channels.

**Ⓜ:**  
Channels are set that you can not watch without inputting the LOCK CODE.

**Note:**  
• To select a channel to set while the CHANNEL SUMMARY menu is being displayed, use the CHANNEL/HYPER SCAN (←→) button.  
Each time you press the button lightly (1st stage), one channel each will be moved.  
When pressing the button strongly (2nd stage), the cursor will move to the channel of the next scan setting.

**To set other channels:**  
With the CHANNEL/HYPER SCAN (←→) button, move the cursor to the channel you want to set and repeat Step 1.

**Notes**  
• The station ID is displayed when a channel is selected and when YOUR FAVORITES or CATEGORY PREVIEW is selected.  
• Channels for which station IDs have been set are automatically set for scanning. When you delete a preset channel from scanning, its station ID is cleared automatically too.

2. Press ← or → to select the character, then press the ▼ to finalize it.

As each character is finalized, the cursor moves to the next position. Repeat Step 2 to set four characters.

- This completes the setting.  
Select FINISH to return to the CHANNEL SUMMARY menu.  
To leave the menu, press the EXIT button.

### To set channel guarding (CHANNEL GUARD)

This sets channels so they can not be watched without inputting the lock code.

#### Condition:

- Before making this setting, display the CHANNEL SUMMARY menu to select the channel you want to set.

1. Press ▼ or ▲ to move the cursor to the Ⓜ row, then press 0.

The guarded channels are marked Ⓜ.

- This completes the setting.  
To leave the menu, press the EXIT button.

### To view guarded channels

1. Press the number keys to select the guarded channel.

The on-screen display appears requesting your LOCK CODE.



**Note:**  
• Guarded channels can not be selected with the CHANNEL/HYPER SCAN (←→) button.

2. Press the number keys to input the lock code.

- The on-screen display disappears and the television changes to the channel you selected.

**If the wrong LOCK CODE is entered:**  
"INVALID LOCK CODE" is displayed and the channel remains unchanged.  
**If the LOCK CODE has been forgotten:**  
Set another lock code.

### To set the LOCK CODE

This procedure sets the lock code, which is used for the CHILD TIMER and for watching guarded channels.

1. Press the MENU buttons to select SET LOCK CODE.

The lock symbol appears.

2. Press 0 before the symbol disappears.

The SET LOCK CODE menu is displayed.

3. Press the ← or → to select the number, then press the ▼.

Repeat Step 3 to set a 3-digit LOCK CODE.

- This completes the setting.  
To leave the menu, press the EXIT button.



# Setting the Clock

The TV has a built-in clock which keeps and displays the current time on the screen. The timer functions won't work, and cannot be set, if this clock stops.

## 1. Press the MENU buttons to select SET CLOCK.

The SET CLOCK menu is displayed.

## 2. Press ▼ or ▲ to move the cursor, then press ◀ or ▶ to set the current time and date.

## 3. Press ▼ to select START CLOCK, then press ◀ or ▶ to start the clock.

"THANK YOU" is displayed and the on-screen display disappears.



**Notes:**

- If there is a power interruption, the clock will stop. However, if the power interruption lasts only a few minutes, the clock will be slow by the number of minutes when the power cut off. In these cases, you need to set the clock again.
- The time is given in 12-hour format.

**If a timer function is selected without setting the clock:**

- "POWER INTERRUPTED WOULD YOU SET CLOCK FIRST?" appears on the screen.
- If you select YES, the SET CLOCK menu is displayed. Set the clock.
- Once the clock is set, the display returns to timer setting mode and you are able to set the timer.
- If you select NO, time setting mode ends and a message appears telling you that the timer cannot be set.

**AM:** To set the morning time.  
**PM:** To set the afternoon and evening time.

## —SET CLOCK

# Sleep Timer operation

The TV will turn off even after you fall asleep while watching it.

### Condition:

- The built-in clock must be set. (Refer to page 24.)

## 1. Press the SLEEP TIMER to set the duration.

Each time you press SLEEP TIMER, the duration increases 15 minutes.

0 → 15 → 30 → 45 → 60 → 75 → 90 → 105 → 120 → 135 → 150 → 165 → 180

**Notes:**

- Once the SLEEP TIMER operates, its setting will be canceled.
- If the TV is turned off or if there is a power interruption, the SLEEP TIMER will be canceled.
- The SLEEP TIMER can be set to turn off up to 180 minutes after the current time.
- If the clock is not working, the SLEEP TIMER cannot be set.
- 20 seconds prior to turning off the TV, "GOOD NIGHT! PUSH SLEEP TIMER BUTTON TO EXTEND" will be displayed on the screen. If you press SLEEP TIMER when this message appears on the screen, setting will be delayed by 15 minutes.

# Timer operation for the desired programs —DUAL ON TIMER

The TV turns on at the set time, and the channel changes to the one you have set. Up to 2 programs can be set.

### Condition:

- The built-in clock must be set. (Refer to page 24.)
- If necessary to select the broadcast mode for the channels you will set (Refer to step 3 on page 10).

## 1. Press the MENU buttons to select DUAL ON TIMER.

The DUAL ON TIMER menu is displayed.



## 2. Press the MENU buttons to make each setting.

1. Press ◀ or ▶ to select Timer 1 or 2.
2. Press ▼ to move the cursor, then press ◀ or ▶ to set the time for the television to come on.
3. Press ▼ to move the cursor, then press ◀ or ▶ to set the channel.
4. Press ▼ to move the cursor, then press ◀ or ▶ to select YES.

## 3. Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.

The settings you have made are stored and the television returns to the menu screen.

- This completes the setting. To leave the menu, press the EXIT button. When you switch off the power, the POWER ON TIMER lamp glows dimly.

**1: DUAL ON TIMER 1**  
**2: DUAL ON TIMER 2**

**AM:** To set the time for the morning.  
**PM:** To set the time for the afternoon and evening.

**Note:**

- The DUAL ON TIMER cannot be set for channels set under CHANNEL GUARD. (Refer to page 23.)

# Turning the TV ON/OFF at a set time, every day —HOME SITTER

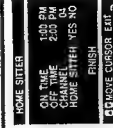
You can turn on the TV to a set channel at a set time, and then turn it off at a set time.

### Condition:

- The built-in clock must be set. (Refer to page 24.)
- If necessary to select the broadcast mode for the channels you will set (Refer to step 3 on page 10).

## 1. Press the MENU buttons to select HOME SITTER.

The HOME SITTER menu is displayed.



## 2. Press the MENU buttons to make each setting.

1. Press ◀ or ▶ to set the times for the TV to come on and go off.
2. Press ▼ to move the cursor, then press ◀ or ▶ to set the channel.
3. Press ▼ to move the cursor, then press ◀ or ▶ to select YES.

(Continued on the next page)

**Notes:**

- If there is a power interruption, the HOME SITTER setting will be canceled.
- If the clock is not working, the HOME SITTER cannot be set.

**AM:** To set the time for the morning.  
**PM:** To set the time for the afternoon and evening.

**Note:**

- The HOME SITTER cannot be set for channels set under CHANNEL GUARD. (Refer to page 23.)

## TIMER OPERATION

3. Press **▼** to move the cursor to **FINISH**, then press **◀** or **▶** to select it.

The settings you have made are stored and the TV returns to the menu screen.

- This completes the setting. To leave the menu, press the **EXIT** button. When you switch off the power, the **POWERON TIMER** lamp glows dimly.

## Turning OFF the TV at a set time, every day —CHILD TIMER

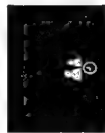
Your TV can be turned off at a set time, every day. No picture will appear for 4 hour after it has turned off, unless a correct **LOCK CODE** is entered. This timer is useful for controlling the TV viewing time for children.

### Condition:

- The built-in clock must be set. (Refer to page 24.)

1. Press the **MENU** buttons to select **CHILD TIMER**.

The **CHILD TIMER** symbol is displayed.



2. Press **0** before the symbol disappears.

The **CHILD TIMER** menu is displayed.



3. Press the **MENU** buttons to make each setting.

1. Press **◀** or **▶** to set the time for the television to go off.
2. Press **▼** to move the cursor to **YES**, then press **◀** or **▶** select it.

4. Press **▼** to move the cursor to **FINISH**, then press **◀** or **▶** to select it.

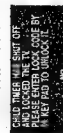
The settings you have made are stored and the TV returns to the menu screen.

- This completes the setting. To leave the menu, press the **EXIT** button.

To watch the TV within 4 hour after it has been turned OFF by **CHILD TIMER**.

- 1 Press **POWER**.

"PLEASE ENTER LOCK CODE BY 10 KEY PAD TO UNLOCK IT." is displayed against a blue background.



2. Press the number keys to enter the **LOCK CODE** number.

- The on-screen display disappears and a picture appears on the screen.

### Notes:

- As there is a power interruption, the **CHILD TIMER** will be cancelled.
- If the clock is not working, the **CHILD TIMER** cannot be set.

**AM:** To set the time for the morning  
**PM:** To set the time for the afternoon and evening.

### Note:

- As shipped from the factory and after a power interruption, the **LOCK CODE** will be "0000". To change the **LOCK CODE**, the **LOCK CODE** must be set. Refer to "To set the **LOCK CODE**" on page 23.

If the wrong **LOCK CODE** is entered: "INVALID LOCK CODE" will be displayed and the blue background will remain.

If the **LOCK CODE** has been forgotten: Cancel the **CHILD TIMER** setting.

## TIMER OPERATION/OTHER FEATURES

CHILD TIMER  
DISPLAY  
NOISE MUTE

## Displaying the current TV status

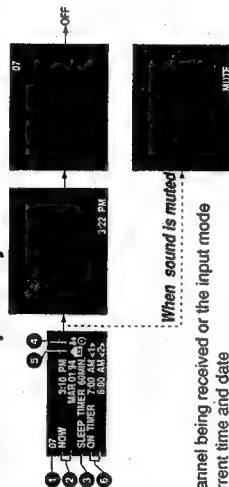
—DISPLAY

You can display the timer settings, current time, and channel number.

1. Press **DISPLAY** repeatedly.

**Note:**

- While the clock is not working, "CLOCK NOT SET" is displayed instead of the current time.
- Date set as a **SPECIAL DAY**
- The display for a **SPECIAL DAY** is shown on the second page.



- 1 Channel being received or the input mode
- 2 Current time and date
- 3 Set status of the **SLEEP TIMER**
- 4 Appears when the **CHILD TIMER** is operating
- 5 Appears when the **HOME SITTER** is operating
- 6 Set status of the **DUAL ON TIMER**

## Turning Non-broadcasting channels blue

—NOISE MUTE

You can turn the picture noise, which appears for channels not receiving broadcast signals, into a quiet solid blue screen.

1. Press the **MENU** buttons to select **NOISE MUTE**.



2. Press **◀** or **▶** to select **ON** or **OFF**.

- This completes the setting. To leave the menu, press the **EXIT** button.

**ON:** To set Noise Mute.  
**OFF:** Not to set Noise Mute.

## Viewing the Closed Captions —CLOSED CAPTION

You can watch the closed captions of a TV broadcast, a video tape or a video disc.

### Condition:

- Tune the TV to a program or video source which contains a closed caption.

### 1. Press CLOSED CAPTION repeatedly.

→ CLOSED CAPTION → TEXT → OFF

**Note:**  
• The closed caption may not be correctly displayed for cable TV or a video source with copy guard.

- Addressed caption may not appear properly due to signal reception condition. In this case, press the CLOSED CAPTION button again to make the setting, or return the channel.

### CLOSED CAPTION:

To view the caption

### TEXT:

To view teletext

(If a black background appears while watching video tapes and discs without closed caption, set this function to OFF).

### OFF:

Not to display either one

### To set CAPTION mode and TEXT mode

#### 1. Press the MENU buttons to select CLOSED CAPTION.

The CLOSED CAPTION menu is displayed.



#### 2. Press the MENU buttons to make each setting.

1. Press ◀ or ▶ to set CAPTION mode.
2. Press ▼ to move the cursor, then press ◀ or ▶ to set TEXT mode.
3. Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.

The settings you have made are stored and the TV returns to the menu screen.

- This completes the setting.

To leave the menu, press the EXIT button.

### To select the closed captions BACKGROUND

#### 1. Press the MENU buttons to select CLOSED CAPTION.

The CLOSED CAPTION menu is displayed.



#### 2. Press the MENU buttons to make each setting.

1. Press ▼ to move the cursor to BACK GROUND, then press ◀ or ▶ to set BLACK or CLEAR.
  2. Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.
- The settings you have made are stored and the TV returns to the menu screen.

- This completes the setting. To leave the menu, press the EXIT button.

## Messages for Special Days — SPECIAL DAY

You can set the TV to display a reminder when you switch it on a special day (birthday, anniversary, etc.)

### Condition:

- The built-in clock must be set. (Refer to page 24.)

#### 1. Press the MENU buttons to select SPECIAL DAY.

The SPECIAL DAY list is displayed.



#### 2. Press ▼ or ▲ to move the cursor to the setting position, then press ◀ or ▶ to select it.

The SPECIAL DAY setting screen is displayed.



#### 3. Press ▼ or ▲ to move the cursor to the setting item (ANNIVERSARY, HOLIDAY, BIRTHDAY, CHOICE), then press ◀ or ▶ to select it.

**When you select CHOICE:**  
You can set an item yourself. Move the cursor with ▼ or ▲ and press ◀ or ▶ to select a character. You can set an item up to 11 characters long.

#### 4. Press the MENU buttons to make each setting.

1. Press ◀ or ▶ to select a character, then press ▼ to finalize it.  
When one character is finalized, the cursor moves to the next one. Repeat this process to set a five-character name.
2. Press ◀ or ▶ to set the month and day.
3. Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.  
The settings you have made are stored and the TV returns to the SPECIAL DAY list.

#### 5. Press ▼ to move the cursor to FINISH, then press ◀ or ▶ to select it.

- This completes the setting.  
To leave the menu, press the EXIT button.



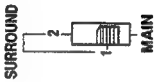
# Listening to the sound through External Speakers

## —OUTPUT SPEAKERS

### 1. Set the EXT SPKR switch to MAIN.

Setting the EXT SPKR switch:  
The output sound differs depending on the switch setting.

Switch setting	Built-in speakers	Speakers connected to the EXT SPKR jacks	Sound output
MAIN	No sound	No sound	Normal sound
SURROUND 1	No sound	Normal sound	Normal sound
SURROUND 2	Normal sound	Surround effect sound	Surround effect sound



# Switching to the Surround Speakers

## —SURROUND

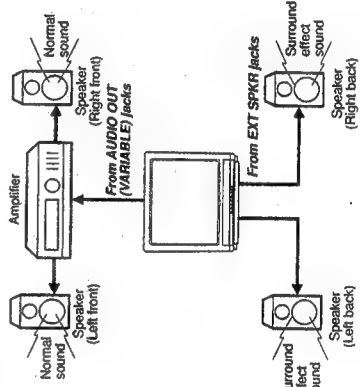
Surround effect is produced by the rear side left/right external speakers. You can enjoy stereoscopic live sound.

### Conditions:

- The effect is produced only from stereo sound. If the sound source is monaural, no sound will come from the external speakers.
- Adjust the balance of sound to the center. (Refer to page 17.)

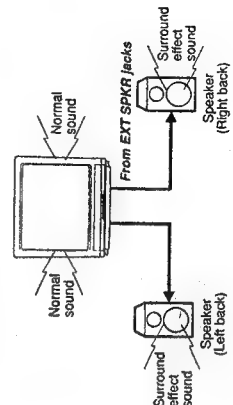
### When an audio component is connected

Set the EXT SPKR switch to "SURROUND 1"



### When an audio component is not connected

Set the EXT SPKR switch to "SURROUND 2"



# Connecting External Devices

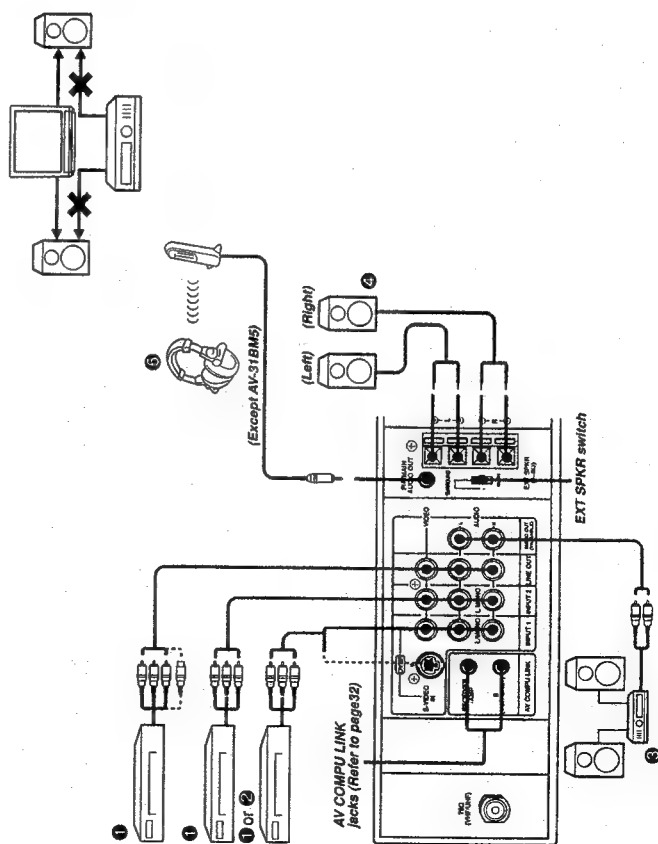
## —CONNECTION DIAGRAM

### Conditions:

- Before connecting external devices, be sure to disconnect the TV from the AC outlet.
- When you want to view from a connected device such as a VCR, change the TV input mode with TV/VIDEO. (Refer to step 2 on page 10.)

- ① VCR
- ② S-VHS VCR
- ③ Audio component
- ④ External speakers
- ⑤ Cordless headphones

- Notes:
- Refer to the "Note" on page 6 and to the manuals provided with the other devices.
- Interference from connected devices may cause the picture quality to deteriorate. If picture noise occurs, turn off devices that you are not using or move them further apart.
- Connect the video signal of S-VHS VCR to S-VIDEO jack.
- Do not connect the audio output of any other device to the speakers connected to this TV. It may damage the TV or the other devices.



# AV COMPU LINK connection —AV COMPU LINK

This TV set is capable of using an AV COMPU LINK. If the TV set is connected to a JVC AV Compu Link-capable VCR and/or hi-fi receiver (or amplifier), automatic switching functions are available.

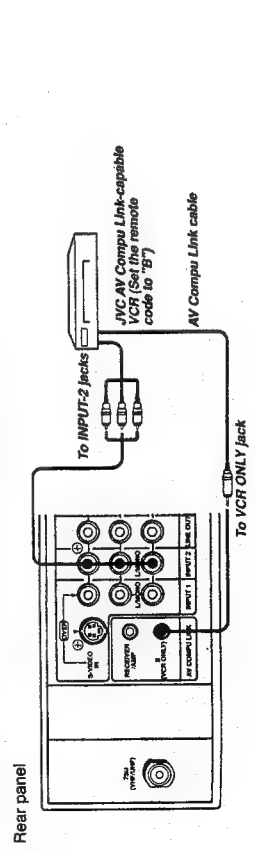
If the TV set is connected to a JVC AV Compu Link-capable VCR, simply insert a video cassette (with its safety tabs removed) such as a prerecorded video into the VCR, the TV set turns on automatically and the video playback is displayed on the screen, without any manual switching necessary.

If the TV set is connected via a JVC AV Compu Link-capable hi-fi receiver (or amplifier) to a JVC AV Compu Link-capable VCR, you can do the following:

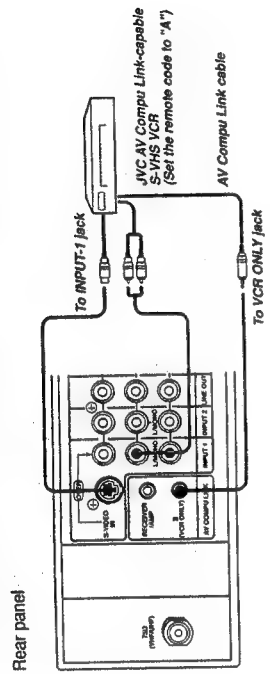
- Insert a video cassette (with its safety tabs removed) into the VCR. Both the TV set and receiver (or amplifier) turn on automatically and the video playback is displayed on the screen.
- Change the input source selector of the receiver (or amplifier) to the video input mode. The TV set's input source selector will also be set to the video input mode [VIDEO-1 or VIDEO-2] automatically.
- Turn on (or off) the receiver (or amplifier). Both the TV set and VCR are also turned on (or off) automatically. For example, if the input source selector of the receiver (or amplifier) is set to "VCR" and the receiver (or amplifier) is turned on, the TV set and VCR connected to VCR1 are turned on.

In addition to connecting video and audio signal cables, connect the AV Compu Link cable to the AV COMPU LINK jacks (VCR ONLY or RECEIVER/AMP jacks) to transmit the control signals via the AV Compu Link cable.

## Connecting an AV COMPU LINK-Capable VCR

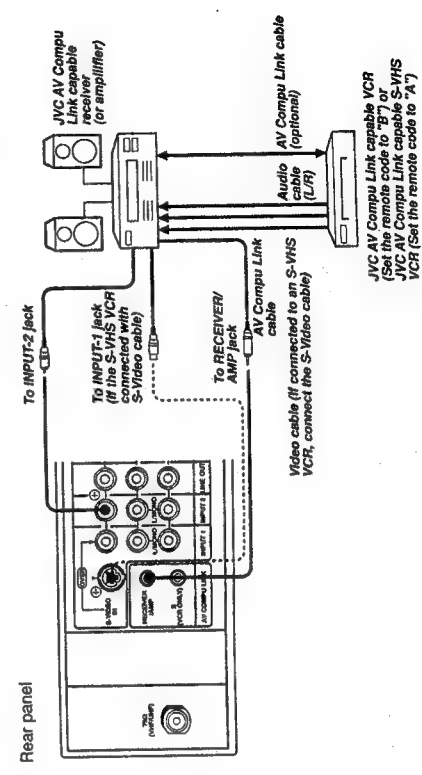


## Connecting an AV COMPU LINK-Capable S-VHS VCR



## Connecting an AV COMPU LINK-Capable Receiver (or Amplifier)

- Note:
- If the AV Compu Link cable is connected to the TV set's RECEIVER/AMP jack, the TV set's remote control sensor does not detect the signals from remote control. Direct the remote control's signals at the receiver (or amplifier). Signals from the remote control are transmitted via the AV Compu Link cable to the TV set.





# Troubleshooting

- If the power cord plug is disconnected from the AC outlet, or the TV antenna is causing problems, you may think there is a problem with the TV itself; be sure to check the following items before calling for service.

**Important:**  
• Review all the instructions written in this user guide.

## ■ GENERAL

Problem	Cause	Action
No power supply	Is the power cord plug disconnected?	Insert the plug into AC outlet. (Refer to page 7.)
No picture or sound	Is the antenna disconnected?	Check the antenna connections. (Refer to page 16.)
	Is the antenna facing in the correct direction?	Position the antenna in the correct direction.
	Is the input mode (TV, VIDEO-1,2) set to an incorrect position?	Press TV/VIDEO to engage the correct mode. (Refer to page 10.)
	Is the broadcast mode set properly?	Set the correct tuner mode with the MENU button. (Refer to page 10.)
	Is the CHILD TIMER operating?	Enter the LOCK CODE. (Refer to page 25.)
Inoperable remote control	Is the TV station the problem?	Watch another channel. If there are no problems with another channel, the TV station may be the problem.
	Are batteries exhausted?	Replace the batteries. (Refer to page 8.)
	Are the batteries' +/- polarity placed correctly?	Re-install the batteries correctly. (Refer to page 8.)
	Is the remote control too far from the TV?	Operate the remote control within approx. 23 ft (7 meters) of the TV.
The channel cannot be selected.	Are there any obstructions between the remote control and TV?	Remove any obstructions between the remote control and TV.
	Is the TV/CATV selector set properly?	When operating the TV, set the TV/CATV selector to TV.
	The TV does not receive remote control commands for some reason.	Press POWER on the TV to turn it off, then turn it on again.
	Have the channels been set?	Presets the channels. (Refer to page 9.)
The power shuts off automatically	Is the SLEEP TIMER set?	Press the remote control number keys to select the channel, then enter the LOCK CODE. (Refer to page 23.)
	Is the CHILD TIMER set?	When operating the TV, set the TV/CATV selector to TV.
The TV clock is incorrect or the clock has stopped.	Was there a power interruption?	Press POWER to turn on the TV again. (Refer to page 24.)
	Was there a power interruption?	Press POWER to turn on the TV, then enter the LOCK CODE. (Refer to page 26.)
The timer operation does not work.	Was there a power interruption?	Set the clock correctly. (Refer to page 24.)
	Was there a power interruption?	If there is a power interruption, the timer operation will be canceled. Set it again. Also check that the clock is correct. (Refer to pages 24 to 26.)

## ■ PICTURE

Problem	Cause	Action
Poor colors	Are the COLOR and TINT controls adjusted incorrectly?	Adjust the COLOR and TINT controls. (Refer to page 16.)
Lines or streaks in the picture (interference)	Has the THEATER STATUS mode been set?	Cancel the THEATER STATUS. (Refer to page 16.)
	Is it a black and white program?	Change the channel and watch a color program.
	Could there be interference from a personal computer, TV, VCR, audio component, jamming by a radio station, etc.?	Move the components apart until the interference is eliminated. Move the antenna to a different position or direction.
Spotted picture (crosstalk)	Could there be interference from a hair dryer, electric cleaner, neon sign, high tension wire, automobile, motorcycle, etc.?	Move the antenna away from the source of interference. Replace the antenna cable with a coaxial cable, which is less prone to interference.
Double pictures (ghost)	Could the direct signals from a TV broadcast station be affected by reflected signals from mountains or buildings, etc.?	Move the antenna to a different position, height or direction. Replace with an antenna having better directional characteristics.
Snowy picture (image noise)	Is the external antenna out of connection?	Check the antenna connection. (Refer to page 7.)
	Is the antenna turned the wrong direction due to strong wind, etc.?	Position the antenna correctly
	Is the antenna damaged?	Replace or repair the antenna.
The screen turns blue.	Is a non-broadcasting channel selected?	Select a broadcast channel.
When a video tape is played, a blue background appears first.	Is Noise Mute on?	Turn off Noise Mute. (Refer to page 27.)
	Is Noise Mute off?	Turn off Noise Mute. (Refer to page 27.)
The second picture does not appear on the screen.	Is the VCR or playback device connected to the TV?	Connect the VCR or playback device to the TV and start playback. (Refer to page 30.)
TV screen has a black square covering 80% of the screen.	Is the Closed Caption Text Mode on?	Press CLOSED CAPTION button to turn Off Text Mode. (Refer to page 28.)

## ■ SOUND

Problem	Causes	Action
Bilingual/stereo broadcasts cannot be heard.	Is the MTS mode set correctly?	Set it to STEREO or SAP mode. (Refer to page 17.)
No sound is output from the TV's speakers.	Is the EXT SPKR switch set to "MAIN" or "SURROUND 1"?	Set the EXT SPKR switch to "SURROUND 2". (Refer to page 31.)

- The following are normal occurrences and are not the result of TV malfunctions:
- When you touch the CRT (Cathode Ray Tube: Picture tube) surface, you might feel a slight change of static electricity. This is because the CRT contains static electricity; it does not affect the human body.
  - Your TV may emit a crackling sound due to a sudden change in temperature. There is no problem unless the picture or sound is abnormal.
  - When a still bright image (of a white dress, for example) appears on the screen, the image may be colored. This problem occurs in all CRTs, and as the bright image disappears, such coloration also disappears.

## TROUBLESHOOTING

# Specifications

Model	AV-27BP5	AV-31BP5	AV-35BP5	AV-31BM5
Type	COLOR TELEVISION			
Receiving	NTSC system, BTSC system (Multichannel Sound)			
Received	VHF 2 to 13, UHF 14 to 69; Sub Mid, Mid, Super, Hyper and Ultra bands (180-channel frequency synthesizer system)			
Power supply	AC 120V, 60Hz			
Power consumption	MAX. 140W, AVG. 100W 1.9 A	MAX. 160W, AVG. 104W 2.3 A	MAX. 165W, AVG. 123W 2.57 A	MAX. 160W, AVG. 104W 2.3 A
Screen size	27"69 cm measured diagonally, Full Square	31"79 cm measured diagonally, Full Square	35"89 cm measured diagonally, Full Square	31"79 cm measured diagonally, Full Square
Audio output	5W + 5W			
Speakers	2"x4-3/4"x12cm oblong type x 2	3-1/16"x4-3/4"x8x12cm oval x 2	2"x4-3/4"x12cm oblong type x 2	2"x4-3/4"x12cm oblong type x 2
Antenna terminal	75-ohms (VHF/UHF) terminal (F-type connector)			
External input	Video: 1Vp-p, 75-ohms Audio: 500mV rms (-4dBs), high impedance			
S-Video input	Y: 1Vp-p positive, 75-ohms (negative sync provided) C: 0.286Vp-p (burst signal), 75-ohms			
Variable audio	More than 0 to 1550mV rms (+6dBs), low impedance (400Hz when modulated 100%)			
Line output	Video: 1Vp-p, 75-ohms Audio: 500mV rms (-4dBs), low impedance (400Hz when modulated 100%)			
AV COMPU LINK	3.5 mm ø mini jack x 2			
PIP/MAIN AUDIO	3.5 mm ø stereo mini jack			
OUT jack	Impedance 6 to 8 ohms			
Speaker output jacks	Impedance 6 to 8 ohms			
External dimensions (WxHxD)	25"-7/8"x23-1/8"x20-1/2"	30"-1/4"x26-1/8"x21-5/8"	36-1/8"x29-1/2"x23-7/8"	30"-1/4"x26-1/8"x21-5/8"
Mass	65.5 x 58.6 x 52.0 cm 76.3 lbs/37.6 kg	76.8 x 66.3 x 54.8 cm 117.1 lbs/53.3 kg	91.9 x 74.8 x 60.5 cm 183.6 lbs/83.3 kg	76.8 x 66.3 x 54.8 cm 117.1 lbs/53.2 kg
Accessories	Remote control unit (RM-C723) x1 AAA (R03) batteries x2	Remote control unit (RM-C723) x1 AAA (R03) batteries x2	Remote control unit (RM-C723) x1 AAA (R03) batteries x2	Remote control unit (RM-C723) x1 AAA (R03) batteries x2

Design and specifications subject to change without notice.

## CABLE TV CHANNEL CONVERSION CHART

In addition to normal TV reception from an antenna for VHF (Channels 2 to 13) and UHF (Channels 14 to 69), your TV set is equipped to receive non-standard channels (A to 11, Mid band (A to 11), Super band (W to 23), Hyper band (W-1 to W-28) and Ultra band (W-29 to W-84) can be received by using the channel selections as shown in the following chart.

Note:  
• Reception of channel A-5 (55' of the TV set's on-screen CABLE channel numbers) is not recommended for your TV set.

• : Regular cable channel designations  
• : Your TV set's corresponding on-screen CABLE channel numbers

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FOR CANADA, SEE SEPARATE SHEETS FOR WARRANTY/GARANTIE AND JVC AUTHORIZED SERVICE CENTERS IN CANADA

## HOW TO LOCATE YOUR JVC SERVICE CENTER

TOLL FREE: 1-800-537-5722

Dear customer:  
In order to receive the most satisfaction from your purchase, read the instruction booklet before operating the unit. In the event that repair is necessary, or for the address nearest your location, please refer to the factory service center list below or within the Continental United States, call 1-800-537-5722 for your authorized service. Remember to retain your Bill of Sale for Warranty Service.

~JVC

### JVC SERVICE & ENGINEERING

#### COMPANY OF AMERICA

#### DIVISION OF US JVC CORP.

#### FACTORY SERVICE CENTER LOCATIONS

107 Little Falls Road Fairfield, NJ 07004-2105 (201) 808-9279	1500 Lakes Parkway Lawrenceville, GA 30243-5357 (404) 339-2522	705 Enterprise Street Aurora, IL 60504-8149 (708) 851-7855
5665 Corporate Avenue Cypress, CA 90630-0024 (714) 229-8011	10700 Hammerly Suite 110 Houston, TX 77043 (713) 935-9331	2969 Mapunapuna Place Honolulu, HI 96819-2040 (808) 833-5828
230 Elliot Street Ashland, MA 0172-2377 (508) 881-5923	14505 Commerce Way Miami Lakes, FL 33016-1512 (305) 362-8252	890 Dubuque Avenue South San Francisco, CA 94080-1804 (415) 871-2666

Sophisticated electronic products may require occasional service. Just as quality is a keyword in the engineering and production of the wide array of JVC products, service is the key to maintaining the high level of performance for which JVC is world famous. The JVC service and engineering organization stands behind our products.

#### NATIONAL HEADQUARTERS

#### JVC SERVICE & ENGINEERING COMPANY OF AMERICA

#### DIVISION OF US JVC CORP.

107 Little Falls Road  
Fairfield, NJ 07004-2105

If you ship the product...

Pack your JVC unit in the original carton or one of equivalent size and strength. Enclose, with the unit, a letter stating the problem or symptom that exists and also a copy of the receipt or bill of sale you received when you purchased your JVC unit. Print your home return address on the outside and the inside of the carton. Send to the appropriate JVC Factory Service Center as listed above.

Don't service it yourself.

#### CAUTION

To prevent electrical shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

### ACCESSORIES

To purchase accessories for your JVC product, you may contact your local JVC Dealer. Or from the 48 Continental United States call toll free: 800-882-2345.

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# SPECIFICATIONS

## AV-27BP5

Item	Content
Dimensions (W×H×D)	25-7/8" × 23-1/8" × 20-1/2" / 65.5cm × 58.6cm × 52.0cm
Weight	76.3lbs / 37.6kg
TV System and Color, Sound System	
TV RF System	CCIR(M)
Color, Sound System	NTSC,BTSC (Multichannel Sound)
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency (Quartz Synthesizer System)	
Low Band	(02~06, ) by (02~06 )
High Band	(07~13) by (07~13)
Mid Band	(A~I) by (14~22)
Super Band	(J~W) by (23~36)
Hyper Band	(W + 1~W + 28) by (37~64)
ULTRA Band	(W + 29~W + 84) by (65~94,100~125)
Sub Mid Band	(A-8, A-4~A-1) by (01, 96~99)
TV / CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color Sub Carrier	3.58MHz
Antenna Input Impedance	75Ω (VHF / UHF) Terminal, F-Type Connector
Power Input	120V AC, 60Hz
Power Consumption	140W (max. ) ,100W (avg. ) [US]
Input current	1.9A [CA]
Picture Tube	27"(69cm) measured diagonally, Full Square
Viewable Picture Size (W×H)	21-5/16" × 16" / 54.1cm × 40.6cm
High Voltage	31.0kV ± 1.3kV (at zero beam current )
Speaker	2" × 4-3/4" (5 × 12cm) Oval Type, × 2
Speaker Output Terminal	6~8Ω
Audio Power Output	5W + 5W
Input (1,2)	Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs), High Impedance (RCA pin jack)
Line Output	Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack)
S-Video Input	Y:1 Vp-p positive (negative sync provided,when terminated with 75Ω) C:0.286 Vp-p ( burst signal, when terminated with 75Ω)
Variable Audio Output	More than 0~1550mV rms (+ 6dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack)
AV Compulink Input	Audio : 3.5mm mini jack VCR : 3.5mm mini jack
PIP/MAIN Audio out put	3.5mm Stereo mini jack
Tube	1
IC	32(In TV), 1(In Remocon)
Transistor	117(In TV), 2(In Remocon)
Remote Control Unit	RM-C723

Design & specification subject to change without notice.

## AV-31BP5 / AV-31BM5

## AV-35BP5

Content	Content
<p>30-1/4" × 26-1/8" × 21-5/8" / 76.8cm × 66.3cm × 54.8cm 117.3lbs / 53.3kg [AV-31BP5], 117.1lbs / 53.2kg [AV-31BM5]</p> <p>CCIR(M) NTSC,BTSC (Multichannel Sound)</p> <p>(02~06) 54MHz~88MHz (07~13) 174MHz~216MHz (14~69) 470MHz~806MHz</p> <p>(02~06, ) by (02~06 ) (07~13) by (07~13) (A~I) by (14~22) (J~W) by (23~36) (W+1~W+28) by (37~64) (W+29~W+84) by (65~94,100~125) (A-8, A-4~A-1) by (01, 96~99) 180 Channels</p> <p>(54MHz~804MHz)</p> <p>45.75MHz 41.25MHz (4.5MHz) 3.58MHz 75Ω (VHF / UHF) Terminal, F-Type Connector 120V AC, 60Hz 160W (max. ), 104W (avg. ) [US] 2.3A [CA] 31"(79cm) measured diagonally, Full Square 24-13/16" × 18-5/8" / 63.0cm × 47.2cm 31.0kV ± 1.3kV (at zero beam current ) 2" × 4-3/4" (5 × 12cm) Oval Type, × 2 6~8Ω 5W + 5W Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs), High Impedance (RCA pin jack) Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack) Y:1 Vp-p positive (negative sync provided,when terminated with 75Ω) C:0.286 Vp-p ( burst signal, when terminated with 75Ω) More than 0~1550mV rms (+6dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack) Audio : 3.5mm mini jack VCR : 3.5mm mini jack 3.5mm Stereo mini jack (EXCEPT AV-31BM5) 1 32(In TV), 1(In Remocon) [AV-31BP5] 24(In TV), 1(In Remocon) [AV-31BM5] 119(In TV), 2(In Remocon) [AV-31BP5] 84(In TV), 2(In Remocon) [AV-31BM5] RM-C723 [AV-31BP5], RM-C722 [AV-31BM5]</p>	<p>36-1/8" × 29-1/2" × 23-7/8" / 91.9cm × 74.8cm × 60.5cm 183.6lbs / 83.3kg</p> <p>CCIR(M) NTSC,BTSC (Multichannel Sound)</p> <p>(02~06) 54MHz~88MHz (07~13) 174MHz~216MHz (14~69) 470MHz~806MHz</p> <p>(02~06, ) by (02~06 ) (07~13) by (07~13) (A~I) by (14~22) (J~W) by (23~36) (W+1~W+28) by (37~64) (W+29~W+84) by (65~94,100~125) (A-8, A-4~A-1) by (01, 96~99) 180 Channels</p> <p>(54MHz~804MHz)</p> <p>45.75MHz 41.25MHz (4.5MHz) 3.58MHz 75Ω (VHF / UHF) Terminal, F-Type Connector 120V AC, 60Hz 185W (max. ), 123W (avg. ) [US] 2.57A [CA] 35"(89cm) measured diagonally, Full Square 28" × 21" / 71.1cm × 53.3cm 33.0kV ± 1.0kV (at zero beam current ) 3-3/16" × 4-3/4" (8 × 12cm) Oval Type, × 2 6~8Ω 5W + 5W Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs), High Impedance (RCA pin jack) Video : 1 Vp-p 75Ω (RCA pin jack) Audio : 500 mV rms (-4dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack) Y:1 Vp-p positive (negative sync provided,when terminated with 75Ω) C:0.286 Vp-p ( burst signal, when terminated with 75Ω) More than 0~1550mV rms (+6dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack) Audio : 3.5mm mini jack VCR : 3.5mm mini jack 3.5mm Stereo mini jack 1 34(In TV), 1(In Remocon) 150(In TV), 2(In Remocon) RM-C723</p>

# SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**  
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (⚡) side GND, the ISOLATED (NEUTRAL) (⚡) side GND and EARTH (⊕) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B<sub>1</sub> setting should be checked or adjusted (See ADJUSTMENT OF B<sub>1</sub> POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

## 10. Isolation Check

### (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

#### (1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

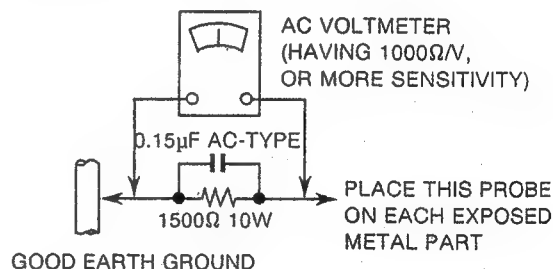
This method of test requires a test equipment not generally found in the service trade.

#### (2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

##### • Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 Ω per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).



#### 11. High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".

## ■ ONLY CANADA

This mark shows a fast operating fuse; the letters indicated below show the rating.



# FEATURES

- New chassis design enables use of a main board with simplified circuitry.
- Comb filter improved picture quality.
- Super COMMAND AI remote control with multi-color on-screen "Menu" display, allowing interactive, total TV operation.
- Provided with miniature tuner (TV / CATV)
- Full-square CRT (cathode ray tube) reproduces fine textured picture in every detail.
- PLL synthesizer system TV / CATV totaling 180 channels.
- AV COMPU LINK terminals allow simultaneous mode switching of the TV, connected receiver (or amplifier) and/or VCR.
- Closed-caption broadcasts can be viewed.
- The AV input terminal, sound input, external speaker output terminal, and audio output terminal allow for a variety of connections to another AV equipment.
- S-VIDEO input terminal for taking best advantage of Super VHS.
- Variable audio output terminal.
- Built-in MTS & SURROUND circuit with A / V system.
- Built-in PIP system (Except : AV-31BM5).
- An auto demonstration function demonstrates the features of this model.

## DIFFERENCE OF MODELS

MODEL	PIP MODULE	VM CIRCUIT	DBF. CIRCUIT
AV-27BP5(US/CA)	YES	NON	NON
AV-31BM5(US/CA)	NON	NON	NON
AV-31BP5(US/CA)	YES	NON	NON
AV-35BP5(US/CA)	YES	YES	YES

# SPECIFIC SERVICE INSTRUCTIONS

## DISASSEMBLY PROCEDURE FOR AV-27/31BP5 & AV-31BM5

### REMOVING THE REAR COVER

1. Unplug the power supply cord and remove the screws marked **A** as shown in Fig. A(AV-27BP5) & Fig. B(AV-31BP5/BM5).
- \* When reinstalling the rear cover, carefully push it inward after inserting the main board into the rear cover groove.

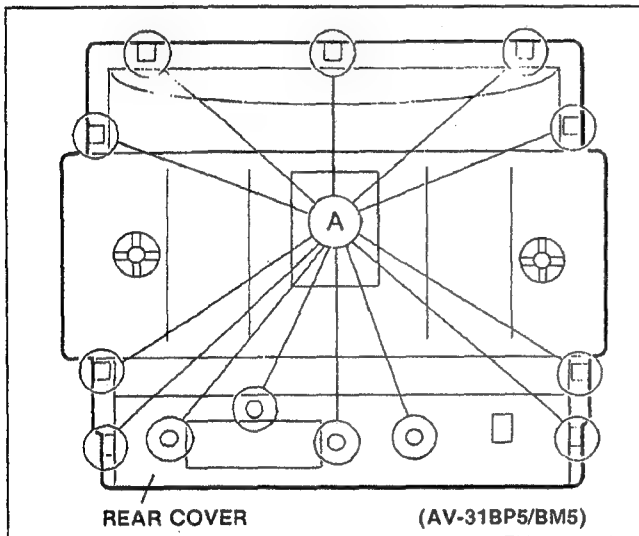


Fig. B

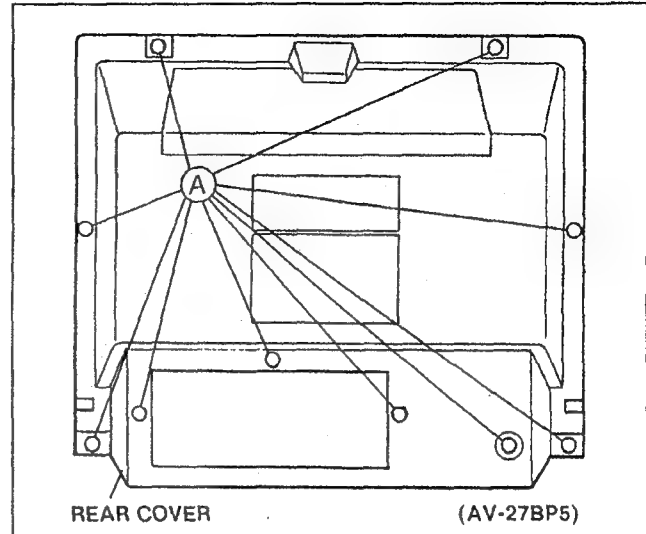


Fig. A

### REMOVING THE CHASSIS

- \* After removing the rear cover.
1. As shown in Fig. C slide and pull out the CHASSIS BASE in the direction of arrow marked **A**.  
(If necessary, take off the wire clamp and connectors, etc.)

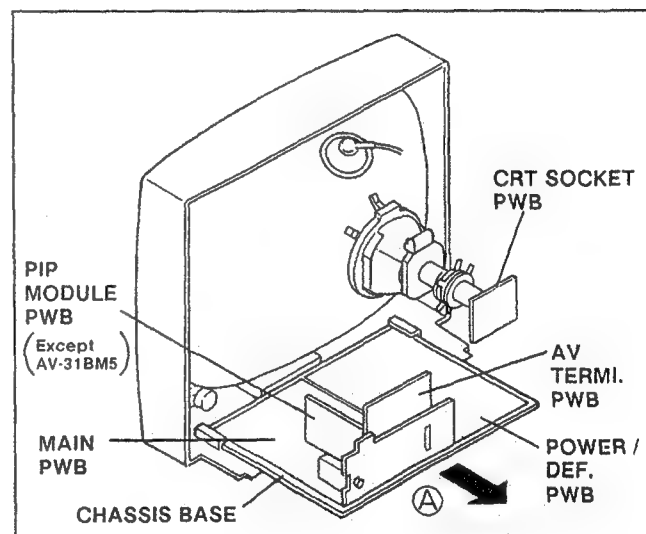


Fig. C

### REMOVING THE AV TERMINAL BOARD & AV TERMINAL PWB

- \* After removing the rear cover.
1. Remove the five screws marked **A** and two screws marked **B** as shown in Fig. D.
  2. While wideing the two claws marked **C**, remove the AV TERMINAL BOARD.
  3. Raise the AV TERM. PWB in the arrow direction marked **D** as shown in Fig. D.
  4. The connector (CN003) will then be free and the AV TERMINAL PWB can be removed.

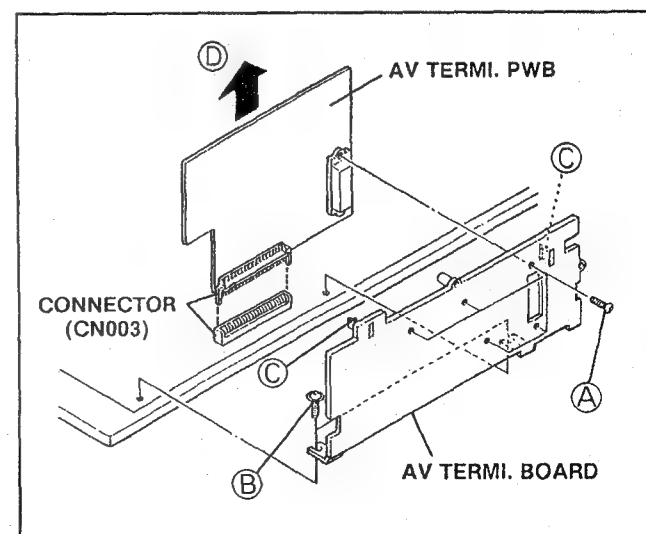


Fig. D

## REMOVING THE PIP PWB (Except AV-31BM5)

\* After removing the rear cover.

1. While widening the three claws marked ① as shown in Fig. E.
2. Raise the PIP PWB in the arrow direction marked ② as shown in Fig. E.
3. The connector will then be free and the PIP PWB can be removed.

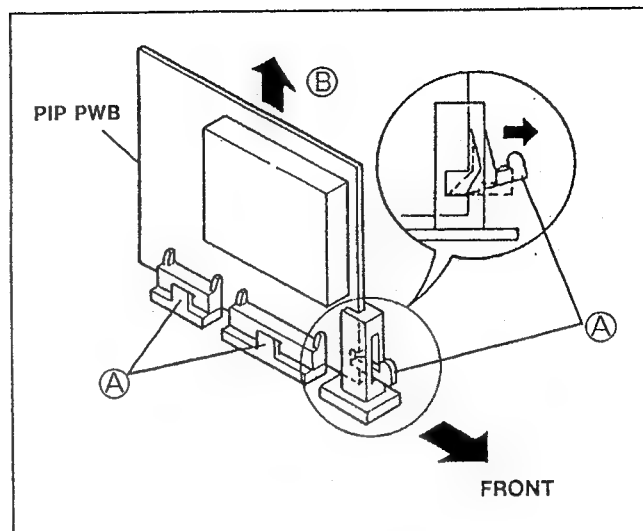


Fig.E

## REMOVING THE FRONT CONTROL PWB

\* After removing the rear cover & the chassis.

1. While widening the two claws marked ① as shown in Fig. F.
  2. As show in Fig. F slide and pull out the FRONT CONTROL PWB in the direction of arrow marked ②.
- \* If necessary, take off the wire clamp and connectors, etc.

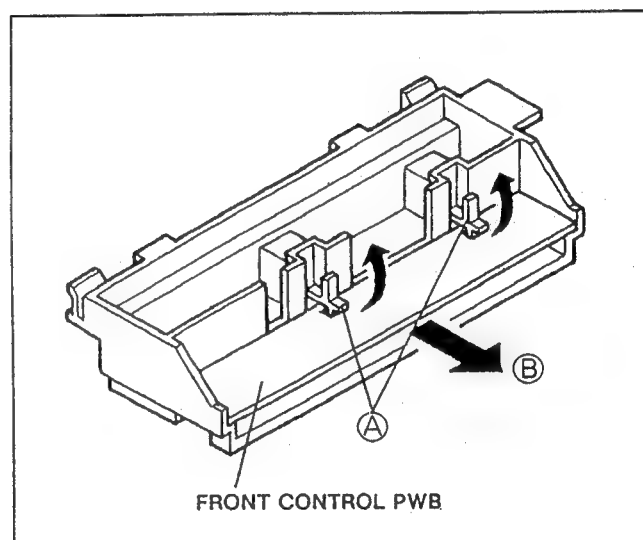


Fig. F

## AN EXAMPLE OF PLACEMENT FOR SERVICE

1. As shown in Fig. G, place the unit for service.
  2. When the chassis, sub PWB Ass'y etc, have been removed, the wire clamp, connector, earth wire etc, which were also detached together must be reattached to their original places in order to make preparations for service.
  3. While taking care that there is no short circuit with the conductor section etc., place the unit. Insulate the unit with a cardboard, or the like, if necessary.
  4. After making sure that there is no short circuit and other obstructive matters with the unit turn on electricity for service.
- \* When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB Ass'y and the POWER / DEF PWB Ass'y.

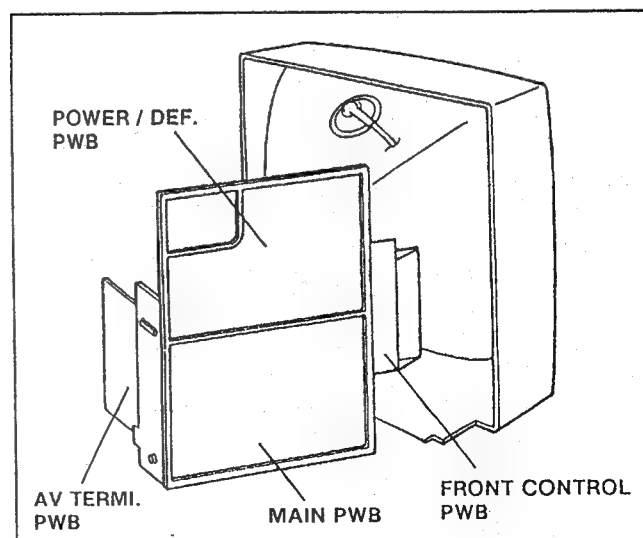


Fig. G

## WIRE CLAMPING AND CABLE TIES

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.



## DISASSEMBLY PROCEDURE FOR AV-35BP5

### REMOVING THE REAR COVER

1. Unplug the power supply cord and remove the fifteen screws marked ① as shown in Fig. A.
- \* When reinstalling the rear cover, carefully push it inward after inserting the main board into the rear cover groove.

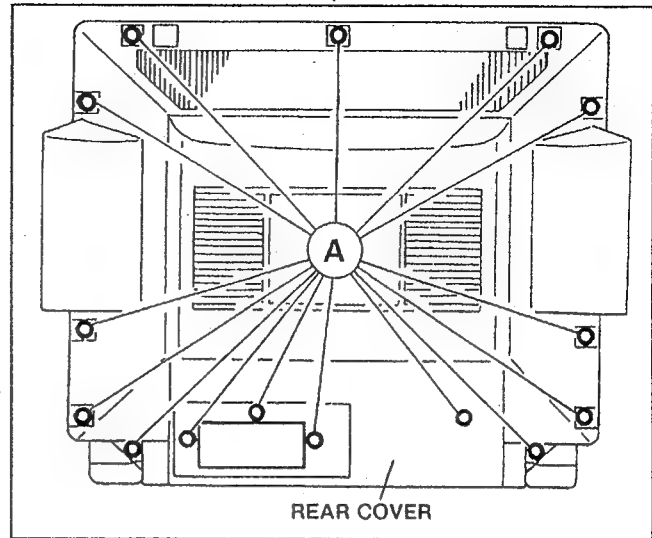


Fig. A

### REMOVING THE CHASSIS

1. Loosen the one screw marked ① of the front control base as shown in Fig. B.
2. As shown in Fig B, slide and pull out the chassis in the direction of arrow. (If necessary, take off the wire clamp and connectors..., etc.)

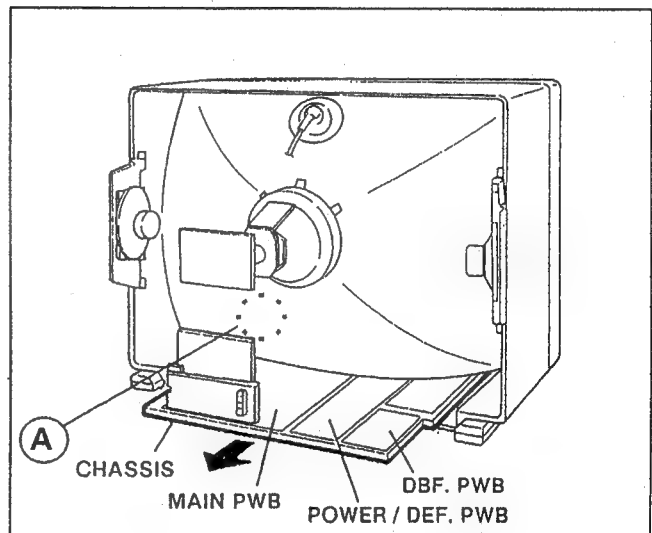


Fig. B

### REMOVING THE AV TERMINAL BOARD & AV TERMINAL PWB

- \* After removing the rear cover.
1. Remove the five screws marked ① and two screws marked ② as shown in Fig. C.
  2. While wideing the two claws marked ③, remove the AV TERMINAL BOARD.
  3. Raise the AV TERMI. PWB in the arrow direction marked ④ as shown in Fig. C.
  4. The connector (CN003) will then be free and the AV TERMINAL PWB can be removed.

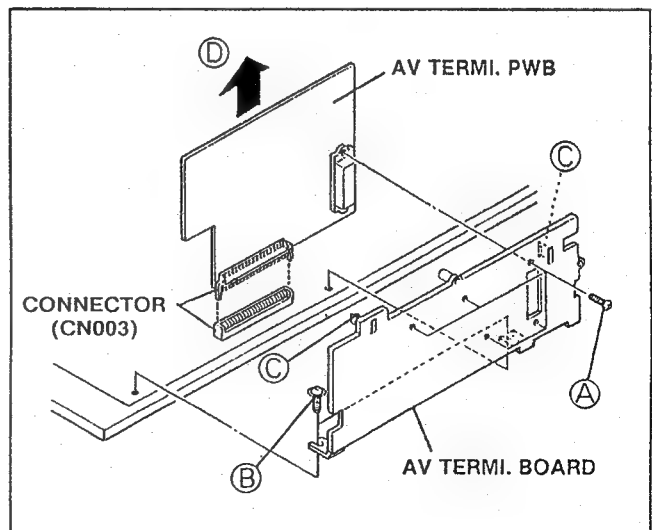


Fig. C

### REMOVING THE PIP PWB

\* After removing the rear cover.

1. While widening the three claws marked (A) as shown in Fig. D.
2. Raise the PIP PWB in the arrow direction marked (B) as shown in Fig. D.
3. The connector will then be free and the PIP PWB can be removed.

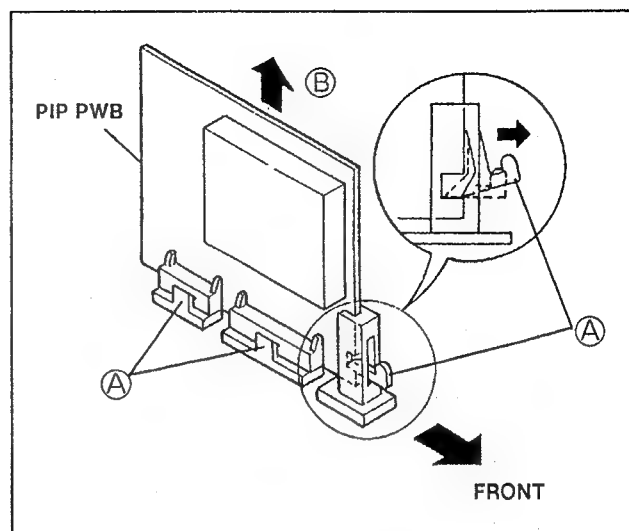


Fig. D

### REMOVING THE SPEAKER GRILL

\* After removing the rear cover.

1. Remove the two screws marked (A) as shown in Fig. E.
2. While widening the claw marked (B), remove the speaker grill as shown in Fig. E.
3. Use same procedure when removing the other hand speaker grill.

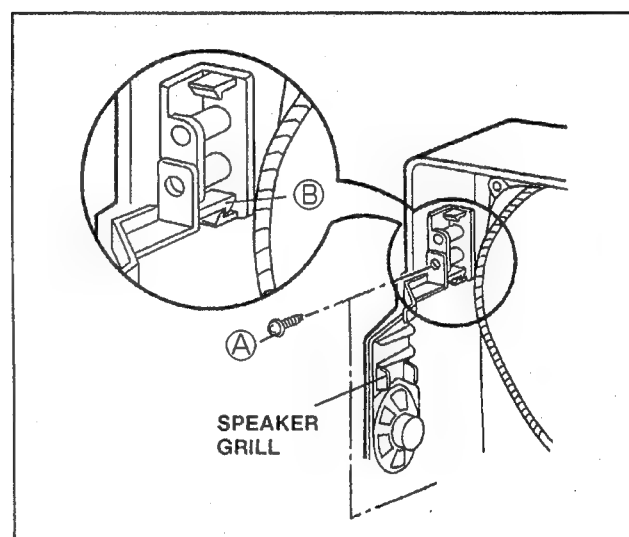


Fig. E

### AN EXAMPLE OF PLACEMENT FOR SERVICE

1. As shown in Fig. F, place the unit for service.
  2. When the chassis, sub PWB Ass'y etc, have been removed, the wire clamp, connector, earth wire etc, which were also detached together must be reattached to their original places in order to make preparations for service.
  3. While taking care that there is no short circuit with the conductor section etc., place the unit.  
Insulate the unit with a cardboard, or the like, if necessary.
  4. After making sure that there is no short circuit and other obstructive matters with the unit turn on electricity for service.
- \* When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB Ass'y and the POWER / DEF PWB Ass'y.

### WIRE CLAMPING AND CABLE TIES

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.  
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

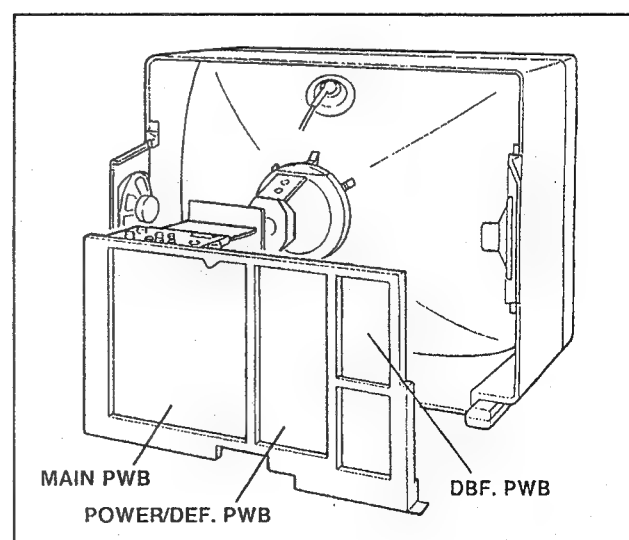


Fig. F

## REMOVING THE CRT.

- Relacement of the CRT should be performed by two or more persons.
- After removed the rear cover, chassis and sp grill ass'y etc.,
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth. (shown in Fig. G)
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig. H.
- 3. Remove four nuts marked by arrows with a box type screw driver as shown in Fig. H.
- Since the cabinet will drop when nuts have been removed, be sure to support the cabinet with hands.
- 4. After four nuts have been removed, put the cabinet slowly on cloth (At this time, be careful so as not to damage the front surface of the cabinet) as shown in Fig. I.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

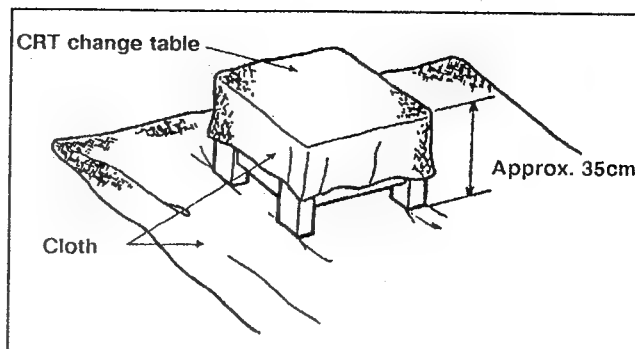


Fig. G

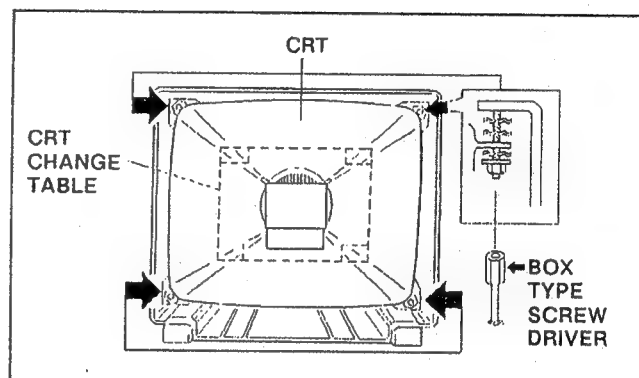


Fig. H

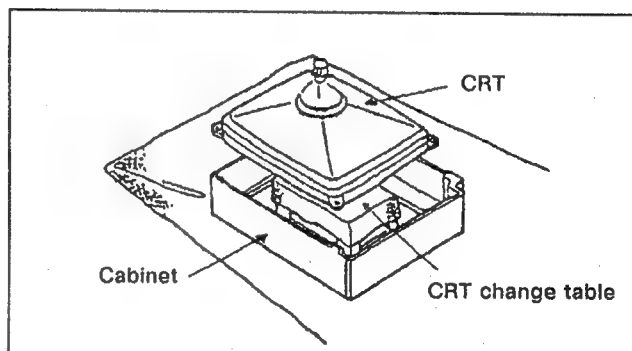


Fig. I

## COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig. J. Wipe around the anode button with clean and dry cloth. (Fig.J) Coat silicon grease on the section around the anode button. At this time, take care so that any silicon grease does not stick to the anode button.(Fig.K)

★ Silicon grease product No. : KS - 650N

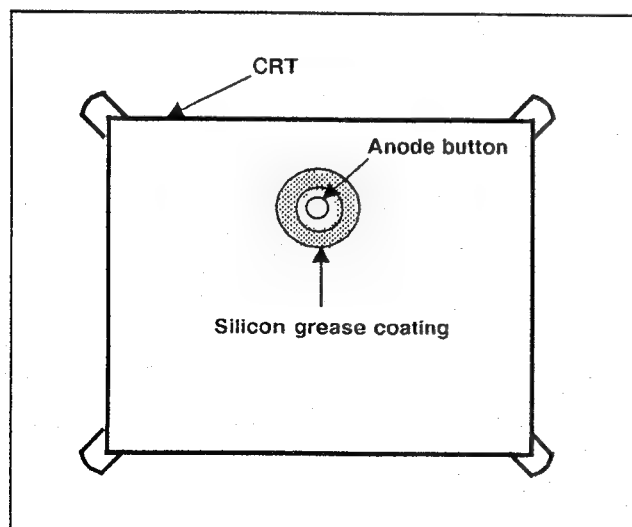


Fig. J

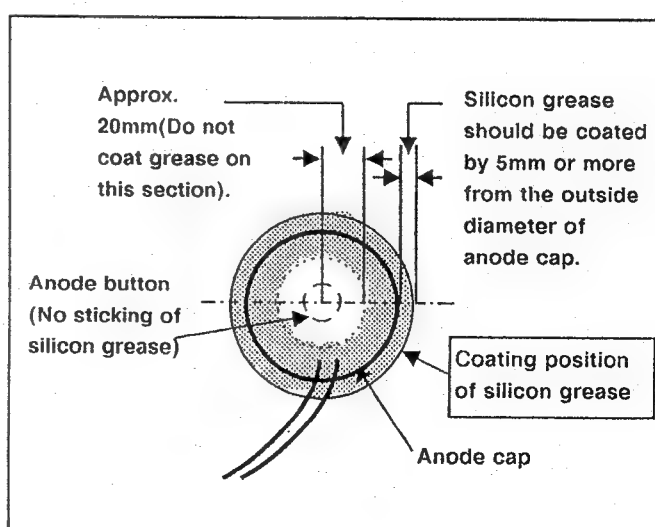


Fig. K

## MEMORY IC REPLACEMENT

### MEMORY IC

- This model uses a memory IC (EEPROM). The memory IC stores data needed for correct operation of the video and deflection circuits. If the IC is replaced, be sure the data (initial values) are entered in the new IC.

### DATA WRITE-IN

- If the TV video, audio and other settings are to be the same as prior to replacing the memory IC, perform the following steps.
  - Before replacing the IC, refer to TABLE 1 (user settings) and to the extent possible make a note of the data for each item.
  - In the SERVICE MODE, to the extent possible make a note of the setting value data for each item.
    - PICTURE SERVICE MODE No.1-No.29
    - SOUND SERVICE MODE No.1-No.12
    - PIP SERVICE MODE No.1-No.40
    - OTHERS MODE No.1-No.29
- If the items are difficult to read due to sync disturbance or other problem, set the input mode to where a video input signal is absent.

- Switch off the power and disconnect the power cord from the AC outlet.
- Replace the memory IC.
- Connect the power cord to the AC outlet and switch on the power.
- Use the remote controller and set the user setting values of TABLE 1 to those noted in above step 1.
- Set the input mode to where a video input signal is absent.
- Set the SERVICE ADJUSTMENT MODE (See page 2-16).
- In sequence, set the service mode setting values to those noted in above step 2. Where the setting values could not be noted, as required, refer to the reference setting values and fine adjust while observing the picture.

### MEMORY IC LOCATION

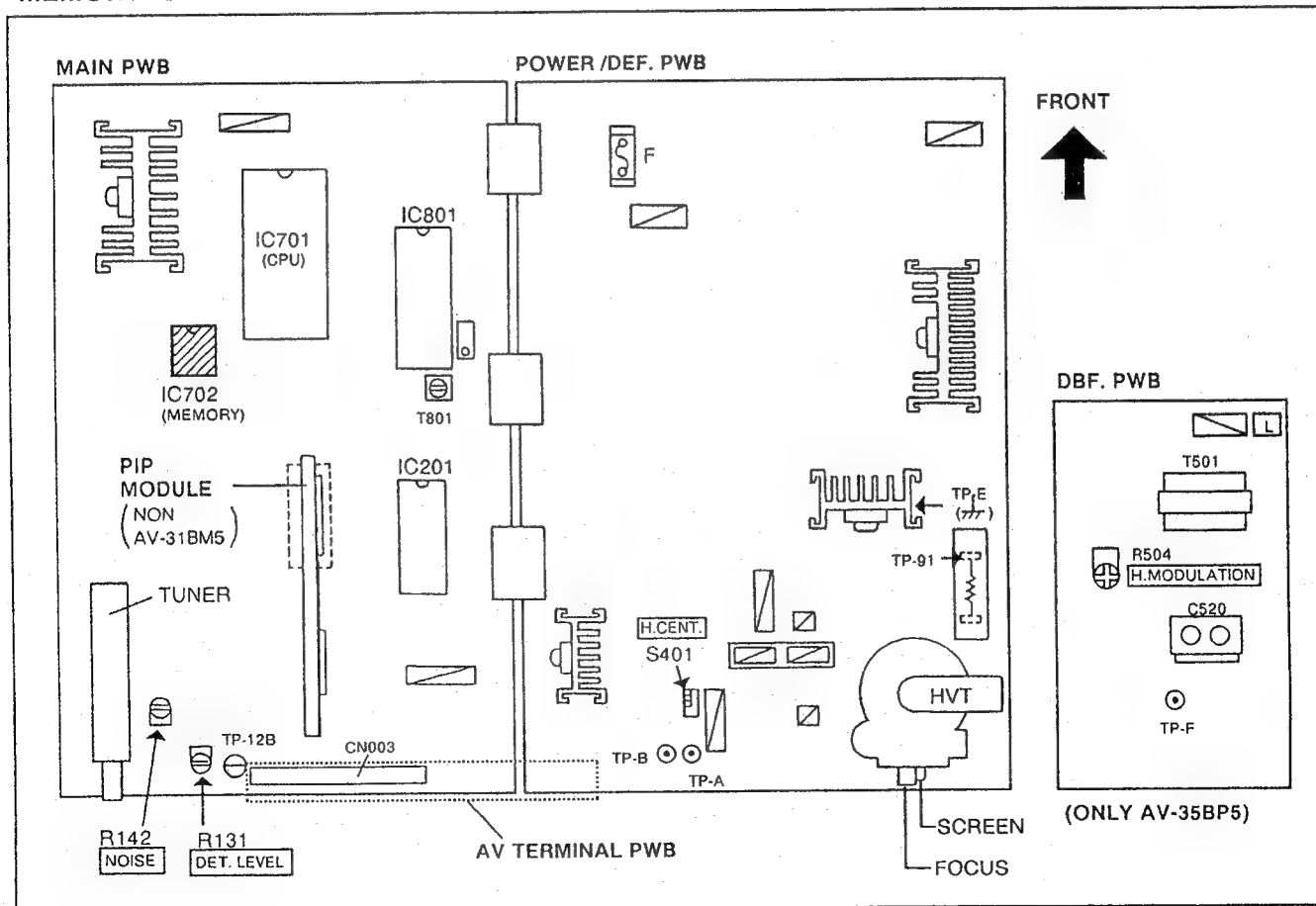


TABLE 1 (User setting)

ITEM	FACTORY SETTING	ITEM	FACTORY SETTING
1. Use remote controller keys			
POWER	OFF	DISPLAY	OFF
CHANNEL	2	AV STATUS	BRIGHT ROOM
VOLUME	Approx. 20	PIP SOURCE	TV
TV / VIDEO	TV	PIP POSITION	Lower left (Except AV-31BM5)
CAPTION	OFF (CC1-T1-BLACK)	PIP SIZE	1/9 (large)
2. Settings from menu			
TINT	CENTER	SPECIAL DAY	— (no setting)
COLOR	CENTER	SET CATEGORY PREVIEW	1. Network only set, others not set
PICTURE	MAX.		PREVIEW1 02 } Air mode
BRIGHT	CENTER		PREVIEW2 04 }
DETAIL	CENTER		PREVIEW3 07 }
VNR	OFF (AV-35BP5 only)	YOUR FAVORITES	Setting not required
NOTCH	OFF	SET LOCK CODE	Setting not required
NOISE MUTE	OFF	CHANNEL SUMMARY	Receive memory set channel mode A
SET AV STATUS	RESET (all center)		Stations [ 02 — CBS ]
BASS	CENTER		[ 04 — NBC ]
TREBLE	CENTER		[ 07 — ABC ]
BALANCE	CENTER		
MTS	STEREO	AUTO TUNER SET UP	OTHERS
SET CLOCK	NON SETTING	TUNER MODE	AIR
CHILD TIMER	NO	MUTE LEVEL	0
	[9:00 PM]	CLOSED CAPTION	CAPTION CC1
HOME SITTER	NO		TEXT T1
	[ ON 7:00 PM ]		BACKGROUND BLACK
	[ OFF 10:00 PM ]		Factory setting : off
	[ CHANNEL 02 ]		
DUAL ON TIMER	Both 1 and 2 NO	AUTO DEMO	Setting not required
	[ ON 7:00 AM ]		
	[ CHANNEL 02 ]		
3. Others			
SELF CHECK	All clear		

ITEM	BRIGHT ROOM	CHOICE	RESET	THEATER
TINT	CENTER	CENTER	CENTER	CENTER
COLOR	CENTER	CENTER	CENTER	CENTER
PICTURE	MAX	CENTER	CENTER	CENTER
BRIGHT	CENTER	CENTER	CENTER	CENTER
DETAIL	CENTER	CENTER	CENTER	CENTER
VNR (AV-35BP5)	OFF	OFF	OFF	OFF
NOTCH	OFF	OFF	OFF	OFF
LIVE EFFEX	OFF	OFF	OFF	OFF
VM (AV-35BP5)	ON	ON	ON	OFF

AV STATUS REFERENCE SETTING POSITION

## REPLACEMENT OF CHIP COMPONENT

### ■CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

### ■SOLDERING IRON

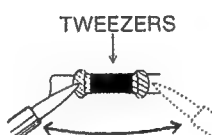
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

### ■REPLACEMENT STEPS

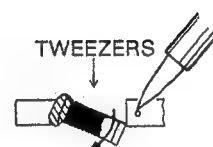
#### 1. How to remove Chip parts

##### ●Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with tweezers and remove the chip part.

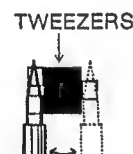


##### ●Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

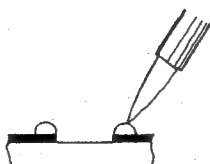


**Note:** After removing the part, remove remaining solder from the pattern.

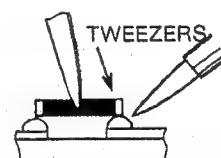
#### 2. How to install Chip parts

##### ●Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.



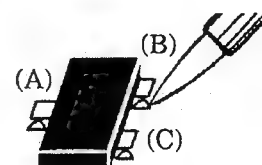
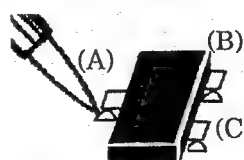
##### ●Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.

- (2) Grasp the chip part with tweezers and place it on the solder.

- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.



# SERVICE ADJUSTMENTS

## BEFORE STARTING ADJUSTMENT

1. The remote controller is used for many adjustments of this model. However, some are performed in the conventional manner by adjusting circuit board parts. The adjustment procedures for this model are described in the following order.

■ B1 VOLTAGE CHECK ..... Page 2-14

■ SCREEN VOLTAGE ADJUSTMENT .... Page 2-14

■ ADJUSTMENTS WITH REMOTE CONTROL UNIT ..... Page 2-16

■ ADJUSTMENT WITH DISCRETE PARTS ..... Page 2-27
2. Allow the set and measuring equipment ample time to warm up (at least 30 minutes).
3. Check proper AC 120V power supply input.

4. Use care not to disturb VRs and other parts not mentioned in the adjustment items.

5. Unless otherwise mentioned in the adjustment steps, use the remote controller to preset the following functions to the indicated positions.

● THEATER / AV STATUS = BRIGHT ROOM MODE (PICTURE only Max., all others to center)

(VNR, NOTCH, LIVE EFFEX = OFF)

● Audio controls : all to center

6. Refer to the adjustment parts locations on page 2-15.

## MEASURING EQUIPMENT & FIXTURES

- DC voltmeter or digital voltmeter

● Oscilloscope

● Test pattern generator (NTSC)
- More precise adjustments are enabled if resolution, pedestal and greyscale pattern outputs are available.
- TV audio multiplex signal generator



● Using remote control unit

RM-C722: AV-31BM5

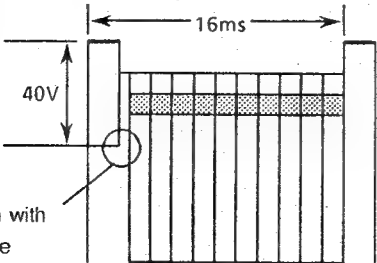
RM-C723: AV-27BP5/AV-31BP5/AV-35BP5

## ADJUSTMENT PROCEDURES

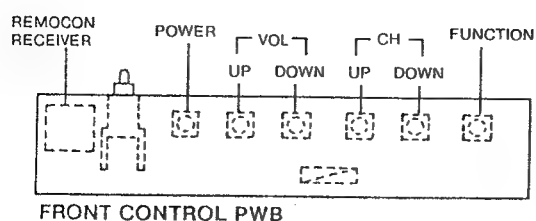
### ■ B1 VOLTAGE CHECK

Item	Measuring Instrument	Test point	Adjustment part	Description
B1 voltage check	PATTERN GENERATOR DC voltmeter	TP-91 TP-E(  )		<div><div>1. Supply a color bar signal input.</div><div>2. Connect the DC voltmeter to TP-91 &amp; TP-E(  ) .</div><div>3. Confirm that the voltage is DC135.5V ± 1.5V.</div></div>

### ■ SCREEN VOLTAGE ADJUSTMENT

SCREEN adjustment	<div><div>PATTERN GENERATOR</div><div>OSCILLOSCOPE [V-rate]</div></div>	<div>TP-R [CRT SOCKET PWB]</div> <div></div>	<div>SCREEN VR [HVT]</div> <div><div>1. Supply a cross-hatch signal input. (Note that if the signal differs, the reference pulse level changes.)</div><div>2. Connect the oscilloscope to TP-R.</div><div>3. Adjust the screen VR to set the reference pulse to 40V.</div></div>
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# ■ ADJUSTMENT PARTS LOCATION

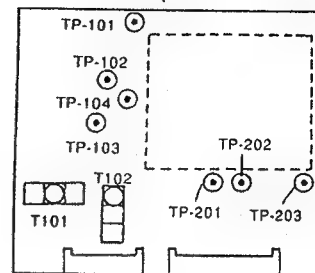


FRONT CONTROL PWB

FRONT

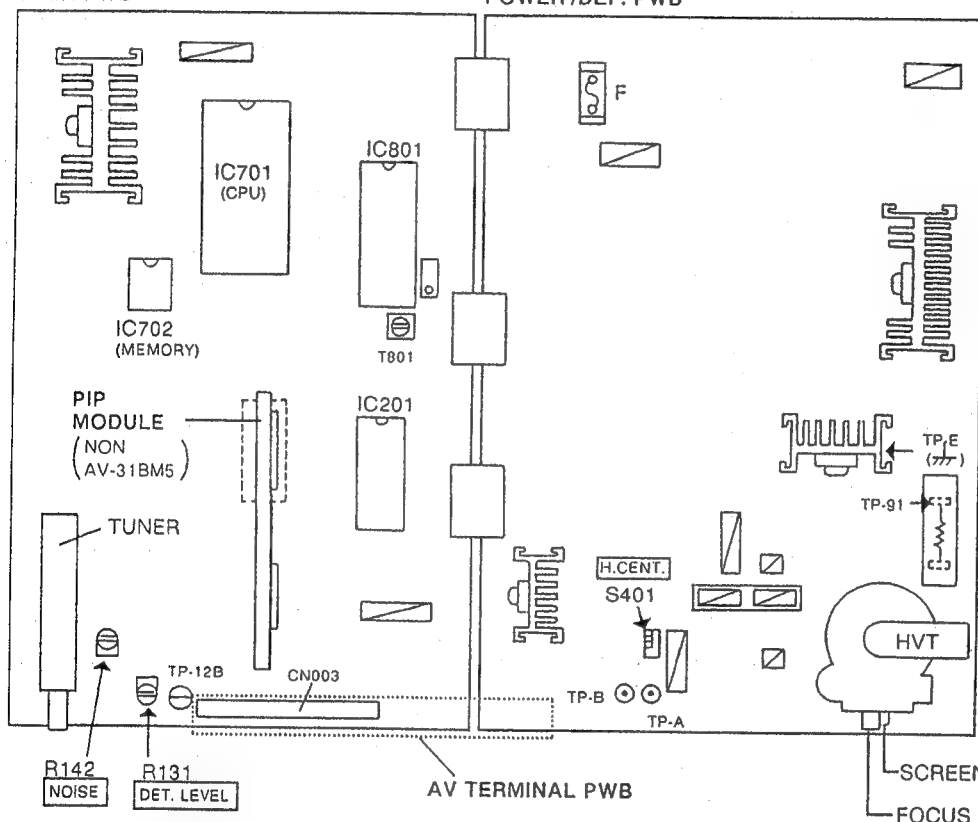
TOP

PIP MODULE (NON AV-31BM5)



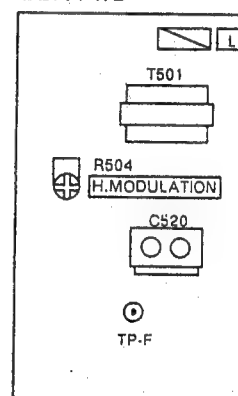
MAIN PWB

POWER /DEF. PWB



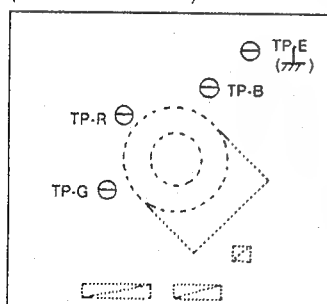
FRONT

DBF. PWB



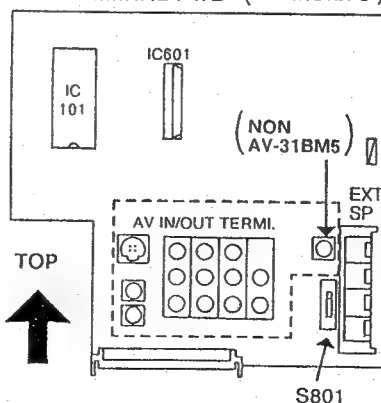
(ONLY AV-35BP5)

CRT SOCKET PWB (SOLDERED SIDE)



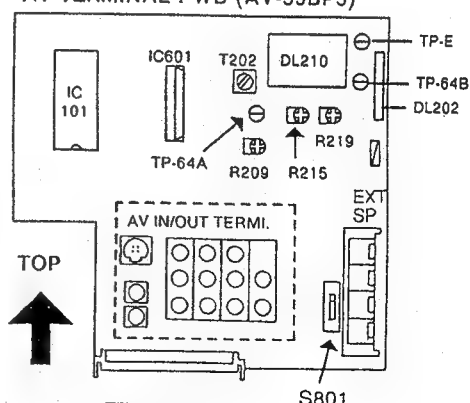
TOP

AV TERMINAL PWB (AV-31BM5 AV-27/31BP5)



TOP

AV TERMINAL PWB (AV-35BP5)



TOP

- T202 COMB PHASE 1
- R209 COMB FILTER 1
- R215 COMB FILTER 2
- R219 COMB PHASE2

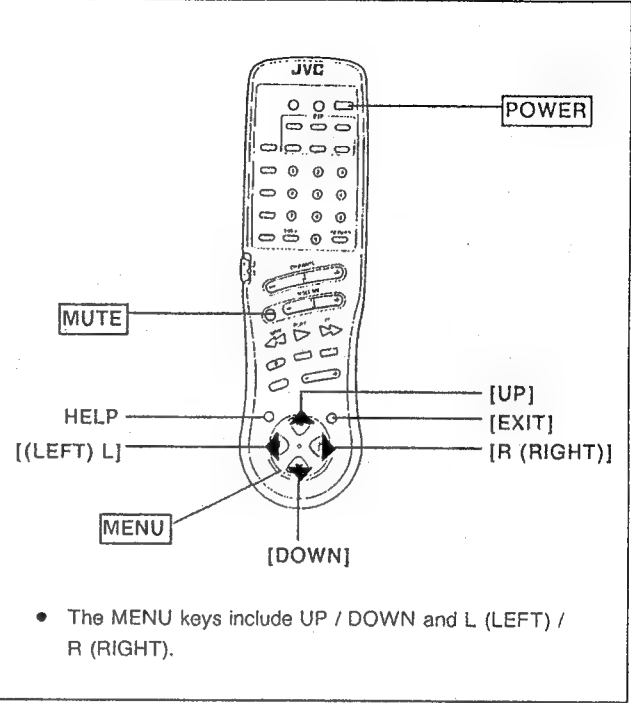


■ ADJUSTMENT WITH REMOTE CONTROL UNIT

SERVICE ADJUSTMENT MODE ENTRY

1. Press the MENU UP / DOWN (or L / R) keys (Fig. A) to produce the screen indicated in Fig. 1, then select SET CLOCK.
2. Press the MENU L / R keys to produce the screen indicated in Fig. 2.
3. Press the MENU UP / DOWN and L / R keys to set the TIME (be sure to set to 3 : 21 AM) and DATE (any date is adequate), then produce the START CLOCK mode (Fig. 2).
4. Press the MENU L / R keys to produce a blinking "THANK YOU" (Fig. 3).
5. While "THANK YOU" is blinking, press the MUTE key, then immediately press the MENU UP / DOWN keys to produce the Fig. 5 SERVICE MODE screen with blinking message.
6. While the message is blinking, press the MENU UP / DOWN keys to produce the Fig. 5 SERVICE MODE MENU screen.
7. Select the mode to be adjusted from the Fig. 5 screen with the MENU UP / DOWN keys.
8. When the MENU UP / DOWN keys are pressed, the Fig. 6 screen is produced and location (A) blinks.
9. When the MENU UP / DOWN keys are pressed according to the blinking (A) location, the Fig. 7 SERVICE ADJUSTMENT ITEMS are produced.
10. At this screen, adjust each SERVICE ADJUSTMENT ITEM.

● REMOTE CONTROLLER KEY LOCATIONS



- The MENU keys include UP / DOWN and L (LEFT) / R (RIGHT).

Fig. A

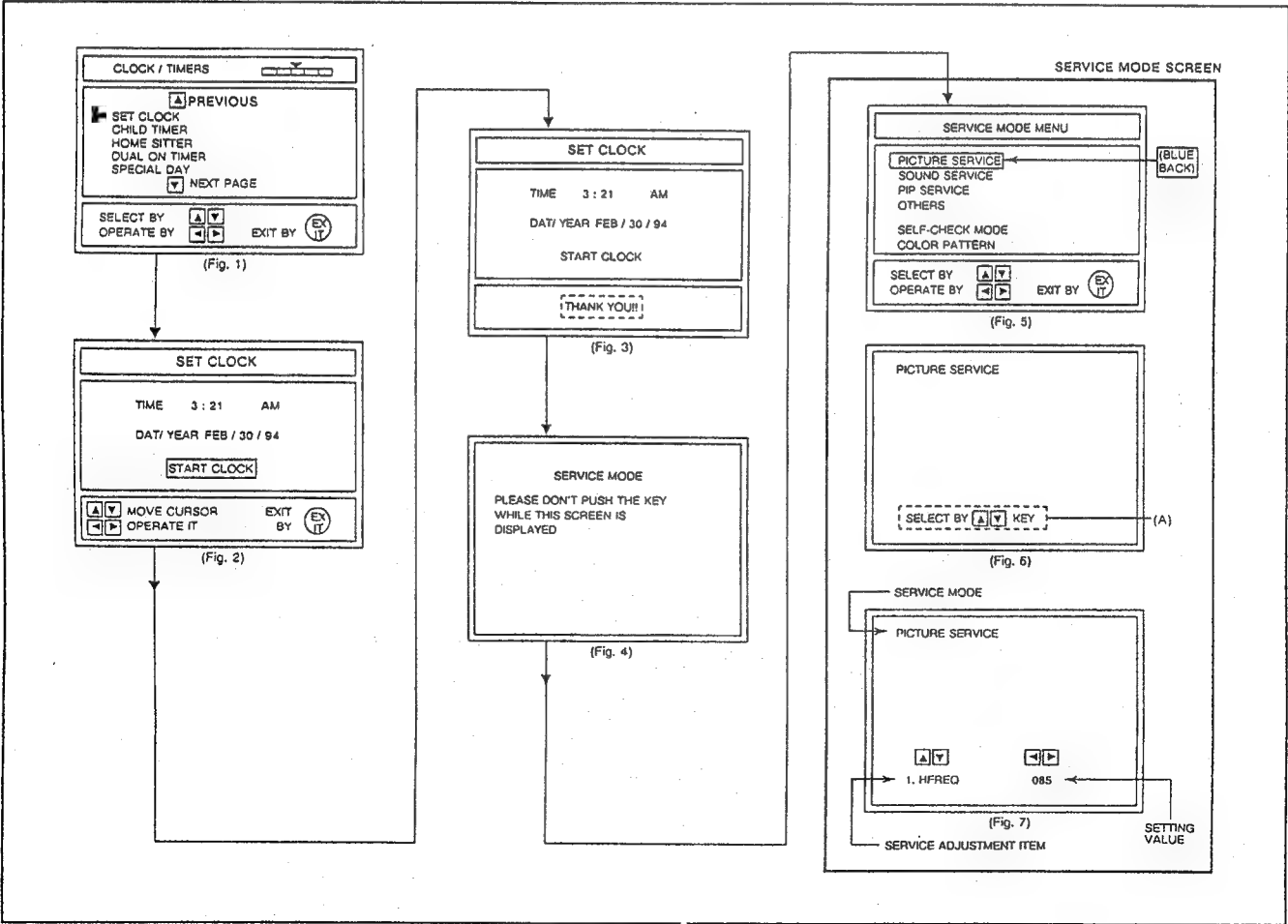
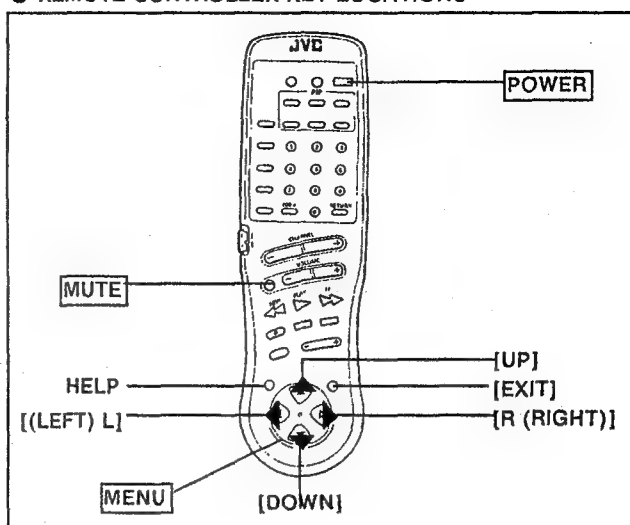


Fig. B

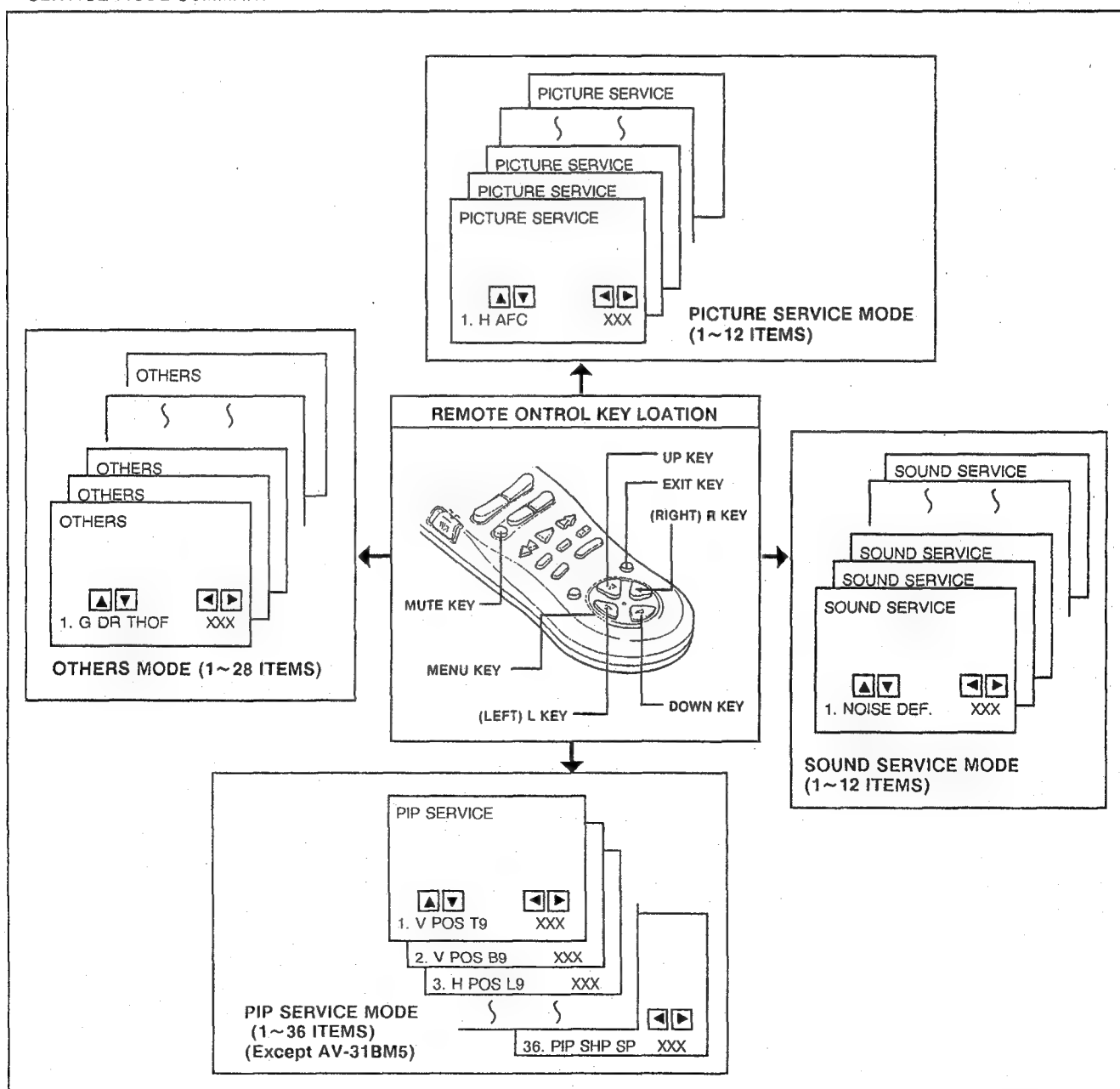
## SERVICE ADJUSTMENT PROCEDURE AND RELEASE

1. Produce the service adjustment mode (Fig. 6).
2. Press the MENU UP / DOWN keys to select the SERVICE ITEM (Fig. 7).
3. Set the SETTING VALUE with the MENU L / R keys. (After adjusting, release the key to store the adjustment.)
4. After setting, press the EXIT key twice to release the SERVICE MODE MENU.

## ● REMOTE CONTROLLER KEY LOCATIONS



## ● SERVICE MODE SUMMARY



SERVICE MODE REFERENCE SETTING VALUE

- Ordinary adjustments are performed by entering the service mode and using the remote controller to fine adjust according to the reference setting values indicated in the table. Where these cannot be fine adjusted, perform the adjustments as described from Page 2-21.
- The reference setting values are approximations and should not be considered absolutely required values.

• PICTURE SERVICE MODE

Adjustment items	Variable range	Reference Setting Value		
		AV-27BP5	AV-31BP5 AV-31BM5	AV-35BP5
1. H AFC	0 ~ +3	0	0	0
2. H FREQ	0 ~ +127	43	52	50
3. V FREQ	0 ~ +127	13	14	14
4. V SHIFT	0 ~ +31	15	15	15
5. V SIZE	0 ~ +63	30	45	35
6. V LIN	0 ~ +15	11	8	9
7. H PHASE	0 ~ +15	5	5	4
8. H SIZE	0 ~ +31	19	25	21
9. PIN AMP	0 ~ +31	16	13	19
10. CORNER PIN	0 ~ +7	4	4	2
11. PIN PHASE	0 ~ +15	6	6	5
12. V S CORRE	0 ~ +15	12	8	5
13. G DRIVE	0 ~ +31	8	10	8
14. B DRIVE	0 ~ +31	8	7	6
15. DYNAMIC WH	0 ~ +1	1	1	1
16. G CUTOFF	0 ~ +15	7	6	3
17. B CUTOFF	0 ~ +15	5	7	1
18. FSC TRAP	0 ~ +63	37	35	31
19. PICTURE	0 ~ +127	91	95	104
20. TINT	0 ~ +127	70	71	78
21. COLOR	0 ~ +127	57	55	55
22. BRIGHT	0 ~ +127	77	78	81
23. DETAIL	0 ~ +15	8	8	7
24. V RANGE	0 ~ +1	0	0	0
25. V WIDTH REG	0 ~ +7	0	0	0
26. REF P POS	0 ~ +3	2	2	2
27. RGB / BACK	0 ~ +3	0	0	0
28. ABL MODE	0 ~ +1	1	1	1
29. RGB PICT	0 ~ +127	84	88	100

• SOUND SERVICE

1. NOISE	0 ~ +1	1	1	1
2. INPUT LVL	0 ~ +63	19	19	19
3. FH MONITOR	0 ~ +1	0	0	0
4. STEREO VCO	0 ~ +63	17	17	17
5. PILOT CANC	0 ~ +1	0	0	0
6. FILTER	0 ~ +63	22	22	22
7. LOW F SEPA	0 ~ +63	30	30	30
8. HIGHF SEPA	0 ~ +63	25	25	25
9. 5FH MONITR	0 ~ +1	0	0	0
10. SAP VCO	0 ~ +63	38	38	38
11. MUTE	0 ~ +1	1	1	1
12. SURROUND	0 ~ +15	2	2	2

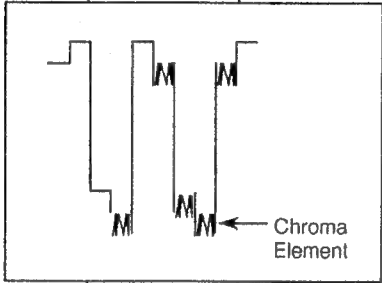
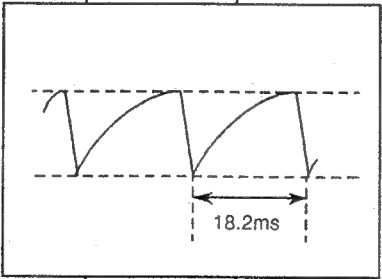
## • PIP SERVICE MODE (Excepte AV-31BM5)

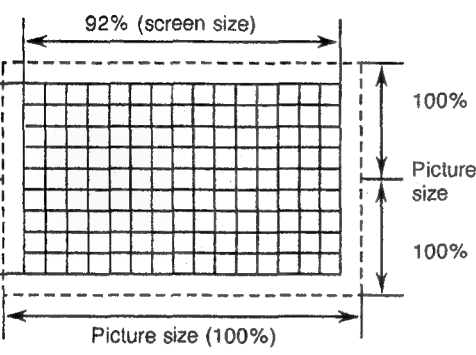
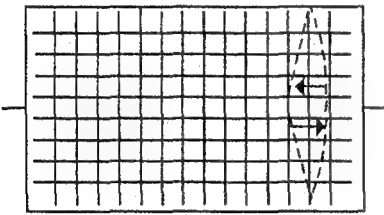
Adjustment items	Variable range	Reference Setting Value		
		AV-27BP5	AV-31BP5	AV-35BP5
1. V POS T 9	0 ~ +255	18	18	18
2. V POS B 9	0 ~ +255	78	78	78
3. H POS L 9	0 ~ +255	41	41	42
4. H POS R 9	0 ~ +255	125	125	126
5. V POS T 16	0 ~ +255	18	18	18
6. V POS B 16	0 ~ +255	87	87	87
7. H POS L 16	0 ~ +255	53	54	54
8. H POS R 16	0 ~ +255	175	175	175
9. V POS CAT	0 ~ +255	11	11	11
10. HPOS L CAT	0 ~ +255	28	28	30
11. HPOS R CAT	0 ~ +255	127	127	129
12. V POS SPL	0 ~ +255	39	39	34
13. HPOS L SPL	0 ~ +255	24	24	26
14. HPOS R SPL	0 ~ +255	78	78	78
15. Y / C DELAY	0 ~ +3	1	1	1
16. FRAME WIDT	0 ~ +3	2	2	2
17. CLAMP POS	0 ~ +3	1	1	1
18. H FILTER	0 ~ +1	0	0	0
19. V FILTER	0 ~ +1	0	0	0
20. ASPECT 9	0 ~ +31	20	20	20
21. ASPECT 16	0 ~ +31	26	26	26
22. ASPECT CAT	0 ~ +31	19	19	19
23. ASPECT SPL	0 ~ +31	14	14	14
24. SUB H POS	0 ~ +3	0	0	0
25. SUB V POS	0 ~ +3	0	0	0
26. H AREA	0 ~ +3	0	0	0
27. V AREA	0 ~ +3	2	2	2
28. PIP1 TINT	0 ~ +255	183	170	165
29. PIP1 COLOR	0 ~ +255	222	198	174
30. PIP1 CONT	0 ~ +255	174	195	186
31. PIP2 TINT	0 ~ +255	185	185	167
32. PIP2 COLOR	0 ~ +255	198	198	160
33. PIP2 CONT	0 ~ +255	144	144	190
34. PIP SHP 9	0 ~ +255	170	170	170
35. PIP SHP 16	0 ~ +255	170	170	170
36. PIP SHP SP	0 ~ +255	170	170	170
37. PIP1 G DRV	0 ~ +255	140	138	150
38. PIP1 B DRV	0 ~ +255	144	138	145
39. PIP2 G DRV	0 ~ +255	188	188	119
40. PIP2 B DRV	0 ~ +255	165	165	123

• OTHERS MODE

Adjustment items	Variable range	Reference Setting Value		
		AV-27BP5	AV-31BP5 AV-31BM5	AV-35BP5
1. G DR TH OF	-127 ~ +127	-6	-2	-3
2. B DR TH OF	-127 ~ +127	-11	-20	-15
3. G CO TH OF	-127 ~ +127	-3	+2	0
4. B CO TH OF	-127 ~ +127	-8	-11	0
5. PICT TH OF	-127 ~ +127	-20	-20	-14
6. TINT TH OF	-127 ~ +127	0	-1	-2
7. COL TH OF	-127 ~ +127	-2	-2	-3
8. BRT TH OF	-127 ~ +127	+5	+4	+4
9. DETL TH OF	-127 ~ +127	0	0	0
10. BASS TH OF	-127 ~ +127	0	0	0
11. TRBL TH OF	-127 ~ +127	0	0	0
12. TH DYN WH	0 ~ +1	0	0	0
13. G DR BR OF	-127 ~ +127	0	0	0
14. B DR BR OF	-127 ~ +127	0	0	0
15. G CO BR OF	-127 ~ +127	0	0	0
16. B CO BR OF	-127 ~ +127	0	0	0
17. PICT BR OF	-127 ~ +127	0	0	0
18. TINT BR OF	-127 ~ +127	0	0	0
19. COL BR OF	-127 ~ +127	0	0	0
20. BRT BR OF	-127 ~ +127	0	0	0
21. DETL BR OF	-127 ~ +127	0	0	0
22. BASS BR OF	-127 ~ +127	0	0	0
23. TRBL BR OF	-127 ~ +127	0	0	0
24. PMUTE M OF	-127 ~ +127	-70	-70	-70
25. VSIZE OFST	-127 ~ +127	+5	+5	+5
26. COMB SW	0 ~ +1	0	0	0
27. TIME DEBUG	0 ~ +1	0	0	0
28. HRC DEBUG	0 ~ +1	0	0	0
29. IRC DEBUG	0 ~ +1	0	0	0

# PICTURE SERVICE MODE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
3.58 MHz CHROMA TRAP adjustment	OSCILLOSCOPE [H-rate]  PATTERN GENERATOR	Q1353 (emitter)	26. COMB SW (OTHERS MODE) 18. FSC TRAP	<ul style="list-style-type: none"> <li>AV-35BP5 : Perform after comb filter adjustment.</li> <li>AV-27/31BP5 &amp; AV-31BM5 : Supply a composite signal to the S-IN terminal Y pin only and set the OTHERS MODE 26. COMB SWITCH value to 1.</li> </ul> <ol style="list-style-type: none"> <li>Supply a color bar signal input.</li> <li>Connect the oscilloscope to Q1353 emitter.</li> <li>Use the remote controller to set the OTHERS MODE 26. COMB SWITCH value to 1.</li> <li>With the remote controller, adjust 18. FSC TRAP to set the chroma element to minimum.</li> <li>With the remote controller, return the OTHERS MODE 26. COMB SWITCH value to 0.</li> </ol>
				
V. SYNC adjustment	OSCILLOSCOPE [H-rate]	IC1201 ① pin  IC1201 ⑤ pin (EARTH) [MAIN PWB]	3. V. FREQ.	<ol style="list-style-type: none"> <li>Select video input. (Do not connect anything to the video input.)</li> <li>Connect the oscilloscope to IC1201 pin 31. (Connect the ground to pin 36.)</li> <li>With the remote controller, adjust 3. V. FREQ to set the period to 18.2 ms (<math>55 \pm 0.8\text{Hz}</math>).</li> </ol>
				
H. SYNC adjustment	PATTERN GENERATOR		1. H. AFC 2. H. FREQ	<ol style="list-style-type: none"> <li>Receive a broadcast.</li> <li>With the remote controller, set 1. H. AFC to 3.</li> <li>With the remote controller, set 2. H. FREQ to 2 to obtain a still picture.</li> <li>With the remote controller, return 1. H. AFC to 0.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description
V. HEIGHT V. LIN. V. POSI. adjustment	PATTERN GENERATOR		4. V. SHIFT 5. V. SIZE 6. V. LIN V. CENTER SW (S1401) [POWER/DEF.PWB]	<ol style="list-style-type: none"> <li>1. Supply a crosshatch signal input.</li> <li>2. With the remote controller, confirm the 4. V. SHIFT value is 15 (this value is fixed at 15 and must not be moved) .</li> <li>3. With the remote controller, adjust 6. V. LIN so that the picture is symmetrical top to bottom.</li> <li>4. Align the vertical center with the V. CENTER switch of the Main PWB.</li> <li>5. With the remote controller, adjust 5. V. SIZE to set the vertical amplitude so that 92% of the overall crosshatch is displayed on the screen.</li> <li>6. As required, repeat above steps 2~5.</li> </ol>
				
H. PHASE, H. SIZE, PIN AMP, CORNER PIN, PIN PHASE adjustment	PATTERN GENERATOR		7. H. PHASE 8. H. SIZE 9. PIN AMP 10. CORNER PIN 11. PIN PHASE	<ol style="list-style-type: none"> <li>1. Supply a crosshatch signal input.</li> <li>2. With the remote controller, adjust 9. PIN AMP, 10. CORNER PIN, and 11. PIN PHASE so that vertical lines at both edges of the picture are straight.</li> <li>3. With the remote controller, adjust 7. H. PHASE and 8. H. SIZE so that 92% of the overall crosshatch is displayed on the screen.</li> <li>4. As required, repeat above steps 2 and 3.</li> </ol> <p>[NOTE] AV-27BP5 : Adjust only 7. H. PHASE. Do not adjust 8. H. SIZE, 9. PIN AMP, 10. CORNER PIN, or 11. PIN PHASE.</p>
				
WHITE BALANCE (Low Light) adjustment	PATTERN GENERATOR		15. DYNAMIC WH 16. G CUT OFF 17. B CUT OFF	<ol style="list-style-type: none"> <li>1. With the remote controller, set 15. DYNAMIC WH is 0.</li> <li>2. With the remote controller, supply a greyscale signal (luminance only staircase waveform) input.</li> <li>3. With the remote controller, adjust 16. G CUTOFF and 17. B CUTOFF to set the white balance to where the greyscale signal to nearly black (dark direction).</li> <li>4. Return 15. DYNAMIC WH to 1.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (High Light) adjustment	PATTERN GENERATOR		13. G DRIVE 14. B DRIVE	<ol style="list-style-type: none"> <li>1. Supply a completely white signal input.</li> <li>2. Set 15. DYNAMIC WH to 0.</li> <li>3. Adjust 13. G DRIVE and 14. B DRIVE for an overall white picture.</li> <li>4. If low light is deviated, readjust 16. G CUTOFF and 17. B CUTOFF.</li> <li>5. Repeat above steps 3 and 4 to correctly adjust low light and high light.</li> <li>6. Return 15. DYNAMIC WH to 1.</li> </ol>
SUB BRIGHT adjustment			22. BRIGHT	<ol style="list-style-type: none"> <li>1. Receive an ordinary broadcast.</li> <li>2. Adjust 22. BRIGHT for optimum picture (avoid setting too bright).</li> </ol>
CONTRAST adjustment (PICTURE)	PATTERN GENERATOR	TP-R	19. PICTURE	<ol style="list-style-type: none"> <li>1. Receive an ordinary broadcast.</li> <li>2. Adjust 19. PICTURE for optimum picture.</li> </ol>
SUB COLOR & SUB TINT adjustment	PATTERN GENERATOR		20. TINT 21. COLOR (OTHERS MODE)	<ol style="list-style-type: none"> <li>1. Supply a color bar signal input.</li> <li>2. Adjust 20. TINT and 21. COLOR for optimum picture.</li> </ol>



SOUND SERVICE MODE ADJUSTMENT

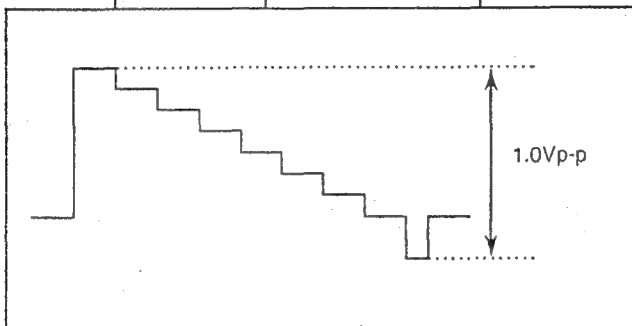
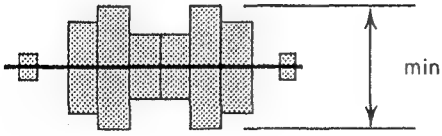
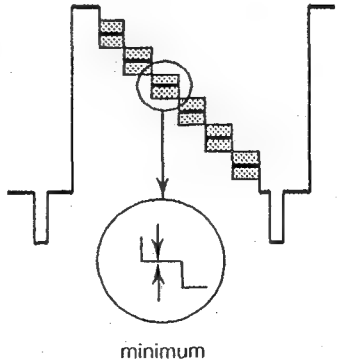
Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL adjustment			2. INPUT LVL	1. Confirm 2. INPUT LVL is at the reference value.
MTS ST VCO adjustment			3. FH MONITOR 4. STEREO VCO	1. Confirm 4. STEREO VCO is at the standard adjustment value. 2. Correctly receive a stereo broadcast and confirm absence of abnormal sound or other problems. 3. If not normal, fine adjust the adjustment value.
MTS FILTER adjustment			5. PILOT CANC 6. DBX FILTER	1. Confirm 5. PILOT CANC and 6. FILTER are at the standard adjustment values. 2. Correctly receive a stereo broadcast and confirm absence of abnormal sound or other problems. 3. If not normal, fine adjust the adjustment values.
MTS SEPA. adjustment	OSCILLOSCOPE		7. LOW F SEPA 8. HIGH F SEPA	1. Set the TV multichannel sound signal generator for generating stereo signal and output signal of about 300Hz from the left channel. 2. Connect an oscilloscope to the " L " output and obtain a clear view of 1- cycle portion of 300Hz waveforms. 3. Change connection of the oscilloscope to the " R " output and expand the voltage axis. 4. Adjust the 7. LOW F SEPA and minimize the 3KHz crosstalk portion. 5. Next set the signal for 3 kHz and in the same manner, adjust 8. HIGH F SEPA.
<div><div></div></div>				
MTS SAP VCO adjustment			9. 5FH MONITR 10. SAP VCO	1. Confirm 10. SAP VCO is at the reference value. 2. Confirm an SAP broadcast can be received normally. 3. If not normal, fine adjust the adjustment value.

PIP SERVICE MODE ADJUSTMENT (Except AV-31BM5)

Item	Measuring instrument	Test point	Adjustment part	Description																																						
PIP WHITE BALANCE adjustment	PATTERN GENERATOR		37. PIP1 G DRV 38. PIP1 B DRV	1. Supply a completely (100%) white signal input. 2. Use the remote controller and display the white signal in the PIP picture. (Set 15. DYNAMIC WH is 0.) 3. Adjust 37. PIP1 G DRV and 38. PIP1 B DRV so that the overall PIP picture is white. 4. Return 15. DYNAMIC WH to 1.																																						
PIP DISPLAY POSI. adjustment  Simple, advanced 1/9, 1/16 sizes	PATTERN GENERATOR		1. V POS T9 2. V POS B9 3. H POS L9 4. H POS R9  5. V POS T16 6. V POS B16 7. H POS L16 8. H POS R16	1. Supply a completely (100%) white signal input. 2. Adjust PIP Service Nos. 1~8 to set the PIP picture positions for both 1/9 and 1/16 sizes as indicated in the table.  ● AV-27/31/35BP5(U/C) <table><tr><th rowspan="2">PIP SERVICE MODE No.</th><th rowspan="2">PIP SIZE</th><th colspan="2">PIP SETTING POSITION</th></tr><tr><th>(APROX.)mm</th><th>%</th></tr><tr><td>1</td><td>1/9 SIZE (X1)</td><td>30</td><td>80 ± 3%</td></tr><tr><td>2</td><td>1/9 SIZE (X2)</td><td>30</td><td>80 ± 3%</td></tr><tr><td>3</td><td>1/9 SIZE (Y1)</td><td>40</td><td>80 ± 3%</td></tr><tr><td>4</td><td>1/9 SIZE (Y2)</td><td>40</td><td>80 ± 3%</td></tr><tr><td>5</td><td>1/16 SIZE (X1)</td><td>30</td><td>80 ± 3%</td></tr><tr><td>6</td><td>1/16 SIZE (X2)</td><td>30</td><td>80 ± 3%</td></tr><tr><td>7</td><td>1/16 SIZE (Y1)</td><td>40</td><td>80 ± 3%</td></tr><tr><td>8</td><td>1/16 SIZE (Y2)</td><td>40</td><td>80 ± 3%</td></tr></table>	PIP SERVICE MODE No.	PIP SIZE	PIP SETTING POSITION		(APROX.)mm	%	1	1/9 SIZE (X1)	30	80 ± 3%	2	1/9 SIZE (X2)	30	80 ± 3%	3	1/9 SIZE (Y1)	40	80 ± 3%	4	1/9 SIZE (Y2)	40	80 ± 3%	5	1/16 SIZE (X1)	30	80 ± 3%	6	1/16 SIZE (X2)	30	80 ± 3%	7	1/16 SIZE (Y1)	40	80 ± 3%	8	1/16 SIZE (Y2)	40	80 ± 3%
PIP SERVICE MODE No.	PIP SIZE	PIP SETTING POSITION																																								
		(APROX.)mm	%																																							
1	1/9 SIZE (X1)	30	80 ± 3%																																							
2	1/9 SIZE (X2)	30	80 ± 3%																																							
3	1/9 SIZE (Y1)	40	80 ± 3%																																							
4	1/9 SIZE (Y2)	40	80 ± 3%																																							
5	1/16 SIZE (X1)	30	80 ± 3%																																							
6	1/16 SIZE (X2)	30	80 ± 3%																																							
7	1/16 SIZE (Y1)	40	80 ± 3%																																							
8	1/16 SIZE (Y2)	40	80 ± 3%																																							

Item	Measuring instrument	Test point	Adjustment part	Description
PIP. FRAM WIDTH adjustment			16. FRAME WIDT	<ol style="list-style-type: none"> <li>1. Supply a signal (any video acceptable) input.</li> <li>2. Adjust 16. FRAME WIDTH so that PIP picture portions A and B are equal (<math>A = B</math>) as indicated in the figure.</li> </ol>
PIP CONTRAST adjustment			30. PIP1 CONT. 33. PIP2 CONT.	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Display the PIP picture.</li> <li>3. Adjust 30. PIP1 CONT for the same optimum picture as the main picture.</li> <li>4. Use the remote controller SWAP key to interchange the main and PIP pictures.</li> <li>5. Adjust 33. PIP2 CONT for optimum picture.</li> </ol>
PIP TINT & COLOR adjustment			28. PIP1 TINT 29. PIP1 COLOR 31. PIP2 TINT 32. PIP2 COLOR	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Display the PIP picture.</li> <li>3. Adjust 28. PIP1 TINT and 29. PIP COLOR for the same optimum picture as the main picture.</li> <li>4. Use the remote controller SWAP key to interchange the main and PIP pictures.</li> <li>5. Adjust 31. PIP2 TINT and 32. PIP2 COLOR for optimum picture.</li> </ol>

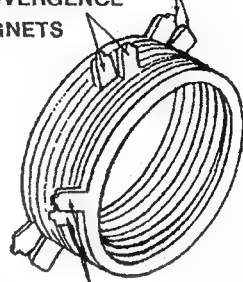
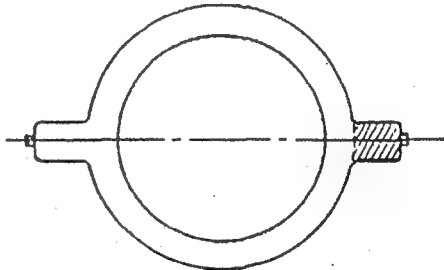
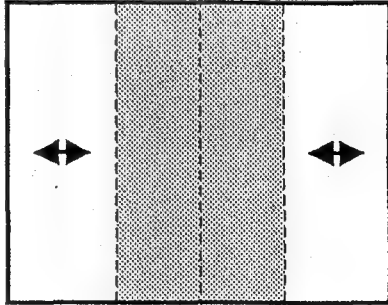
# ■ ADJUSTMENT WITH DISCRETE PARTS

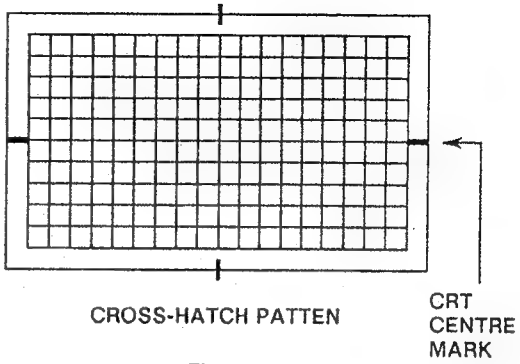
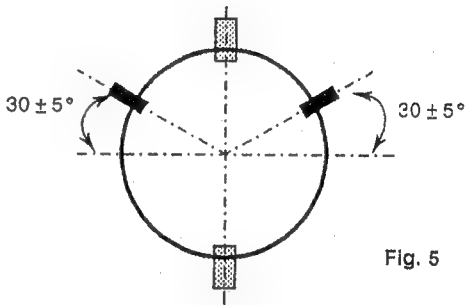
Item	Measuring instrument	Test point	Adjustment part	Description
V.DET. LEVEL adjustment	PATTERN GENERATOR  OSCILLOSCOPE [H-rate]	TP-12	DET. LEVEL VR (R131)	<ol style="list-style-type: none"> <li>1. Supply a half color bar (including 100% white) signal input.</li> <li>2. Connect an oscilloscope to TP-12.</li> <li>3. Adjust the detector level with the DET LEVEL VR for 1 Vp-p from sync tip to white peak.</li> </ol>
				
COMB. FILTER adjustment [AV-35BP5 ONLY]	PATTERN GENERATOR  OSCILLOSCOPE [H-rate]	TP-64A  TP-64B	COMB. FILTER 1 VR (R209)  COMB. PHASE 1 TRANSF. (T202)  COMB. FILTER 2 VR (R215)  COMB. PHASE 2 VR (R219)	<p>[AV-35BP5 only]</p> <ol style="list-style-type: none"> <li>1. Supply a color bar signal input.</li> <li>2. Connect an oscilloscope to TP-64A.</li> <li>3. Adjust the COMB FILTER 1 VR and COMB PHASE 1 transformer to minimize the color signal component.</li> <li>4. Connect an oscilloscope to TP-64B.</li> <li>5. Adjust the COMB FILTER 2 VR and COMB PHASE 2 VR to minimize the color signal component.</li> <li>6. Repeat above steps 2~5.</li> </ol> <ul style="list-style-type: none"> <li>• Since the delay line has a temperature characteristic, allow ample time for warm up before adjusting.</li> </ul>
<div> <div> <p>TP-64A</p>  </div> <div> <p>TP-64B</p>  </div> </div>				

Item	Measuring instrument	Test point	Adjustment part	Description
NOISE adjustment			NOISE VR (R113) [MAIN PWB]	<ol style="list-style-type: none"> <li>1. Receive an ordinary broadcast.</li> <li>2. Turn the noise VR to where noise appears in the picture.</li> <li>3. Carefully turn the NOISE VR in the direction where noise disappears and stop at the position NOISE extinguishes.</li> <li>4. Confirm absence of abnormality on other channels.</li> </ol>
DBF MODULATION VR adjustment [ONLY AV-35BP5]	OSCILLOSCOPE	TP - F TP-E( $\frac{1}{T}$ )	H. MODULATION VR (R504) [DBF. PWB]	<ol style="list-style-type: none"> <li>1. Receive a black - and - white signal.</li> <li>2. Connect an oscilloscope to the TP - F and TP - E (<math>\frac{1}{T}</math>).</li> <li>3. Adjust the H. MODULATION VR so that the value (A) becomes <math>500V \pm 20V_{p-p}</math>.</li> </ol> <div data-bbox="885 1099 1252 1304" data-label="Figure"> <p>The diagram shows a horizontal line with a vertical double-headed arrow labeled (A) indicating a peak-to-peak measurement of a waveform. The waveform is a complex, multi-peaked signal, likely representing a modulated signal as seen on an oscilloscope.</p> </div>
FOCUS adjustment	PATTERN GENERATOR		FOCUS VR [Within HVT]	<ul style="list-style-type: none"> <li>• Perform after DBF. MODULATION adjustment.</li> </ul> <ol style="list-style-type: none"> <li>1. Adjust the focus VR to obtain clear pictures.</li> <li>2. Check that pictures have been adjusted to optimum appearance in both center and peripheral areas of the screen.</li> </ol>

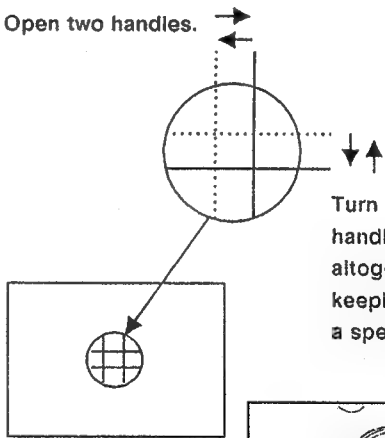
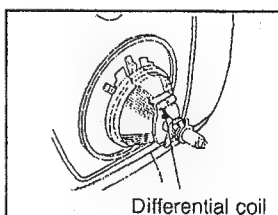
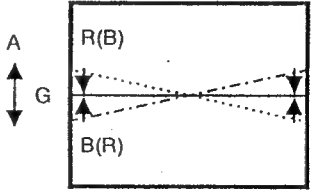
# PURITY, CONVERGENCE

## ADJUSTMENT OF PURITY

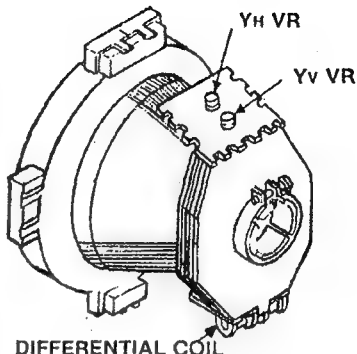
Adjustment Part	Description	Remarks
WEDGE PURITY MAGNET SCREEN VR DEF. YOKE	<p>Prior to starting adjustment, perform the following items:</p> <ol style="list-style-type: none"> <li>1. Remove a wedge inserted into the DEF. YOKE. At this time, clean the portion from which the wedge has been removed.</li> <li>2. Peel adhesive used to fix six magnets with a tip of screw driver so that the magnets can be turned freely.</li> <li>3. Let the monochrome screen appear.</li> <li>4. Demagnetize the CRT with a demagnetizer.</li> <li>5. Set the brightness and picture to slightly higher than the standard values, and warm up for about 20 ~ 30 minutes.</li> </ol> <p>Adjustment method</p> <ol style="list-style-type: none"> <li>1. Input the GREEN picture with the pattern generator, adjust the screen with the SCREEN VR to make the GREEN picture visible.</li> <li>2. After loosening the set screw of the DEF. YOKE, draw the yoke fully to the rear side to let irregular color of a vertical belt form appear on the screen.</li> <li>3. Mutually pile up two PURITY MAGNETS, and set them to a horizontal position as initial magnets (Fig. 2).</li> <li>4. While opening and closing or turning the claws of PURITY MAGNETS, let green vertical belts appear on the center of the screen (Fig. 3).</li> </ol>	<p>4 POLES CONVERGENCE MAGNETS</p> <p>PURITY MAGNET</p>  <p>6 POLES CONVERGENCE MAGNETS</p> <p>Fig. 1</p> <p>Align two purity magnets horizontally.</p>  <p>Fig. 2</p> <p>Green belt</p>  <p>Shift the green belt to the center</p> <p>Fig. 3</p>

Adjustment Part	Description	Remarks
	<div>6. Receive cross-hatch pattern.</div> <div>7. With the DEF. YOKE, make the line horizontal and let the line be further closer to the vertical center position (In this case, do not change the front and rear positions of the DEF. yoke).</div> <div>8. Change the initial picture appear on the screen.</div> <div>9. Make sure that the purity has been obtained regarding the red, blue and mono-color raster.</div> <div>10. Lightly tighten the set screws so that the DEF. YOKE is not moved back and forth.</div> <div>11. Insert the removed WEDGE into the initial position and fix it. (Fig. 5)</div> <div>12. Firmly tighten the set screws of the DEF. YOKE with an appropriate torque.</div>	<div><p>CROSS-HATCH PATTEN</p><p>CRT CENTRE MARK</p><p>Fig. 4</p></div> <div><p>Fig. 5</p></div>

CONVERGENCE

Adjustment Part	Description	Remarks
CONVERGENCE MAGNET	<div>Adjustment method</div> <div>1. Receive cross-hatch pattern.</div> <div>2. With the 4-POLE CONVERGENCE MAGNETS, overlap the red and blue lines at the center of the screen and turn the colour to Magenta (red/blue).</div> <div>3. Next, overlap magenta (red/blue) and green lines at the centre of the screen using the 6-POLE CONVERGENCE MAGNETS.</div> <div>4. By repeating the Steps 2 and 3 above, align the convergence of vertical line to that of the horizontal line at the centre of the screen.</div> <div>• Align the displacement of red and blue in the section A by adjustment with the DIFFERENTIAL COIL. (AV-27BP5)</div> <div>• After completing adjustment of the purity and convergence, fix the six magnets using adhesive.</div>	<div><p>Open two handles.</p><p>Turn the handles altogether while keeping them at a specific angle.</p><p>Fig. 1</p></div> <div><p>Differential coil (AV-27BP5)</p></div> <div><p>Fig. 2</p></div>

## ADJUSTMENT OF DYNAMIC CONVERGENCE FOR AV-35BP5

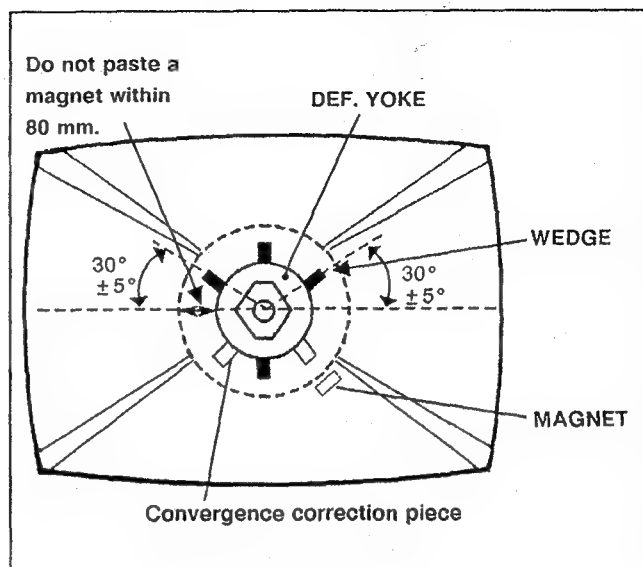
Adjustment Part	Description	Remarks
$Y_H$ VR $Y_v$ VR DIFFERENTIAL COIL	<ul style="list-style-type: none"> <li>Adjust the dynamic convergence by means of the <math>Y_H</math> VR, <math>Y_v</math> VR and DIFFERENTIAL COIL. This adjustment should not be performed by oscillation of the DEF. yoke.</li> </ul> <p>Adjustment method</p> <ol style="list-style-type: none"> <li>Align the displacement of the red and blue vertical lines by adjustment with the <math>Y_H</math> VR (Figs. 7 and 8).</li> <li>Align the displacement of red and blue in Fig.9 by adjustment with the <math>Y_v</math> VR (Figs. 7 and 9).</li> <li>Align the displacement of red and blue in the section A by adjustment with the DIFFERENTIAL COIL (Figs. 7 and 10).</li> </ol>	 <p>Fig. 7</p> <p>Fig. 8: A diagram showing the horizontal alignment of red and blue vertical lines. The red line is labeled R(B) and the blue line is labeled B(R). A horizontal double-headed arrow labeled G indicates the distance between the lines at the top. The lines converge towards a central point at the bottom.</p> <p>Fig. 9: A diagram showing the vertical alignment of red and blue horizontal lines. The top section shows R(B) and B(R) lines with a vertical double-headed arrow labeled G between them. The bottom section shows B(R) and R(B) lines with a vertical double-headed arrow labeled G between them.</p> <p>Fig. 10: A diagram showing the alignment of red and blue lines in section A. The red line is labeled R(B) and the blue line is labeled B(R). A vertical double-headed arrow labeled A indicates the height of the section. A horizontal double-headed arrow labeled G indicates the distance between the lines at the top. The lines converge towards a central point at the bottom.</p>
	<ul style="list-style-type: none"> <li>After completing adjustment of the purity and convergence, fix the six magnets using adhesive.</li> </ul>	



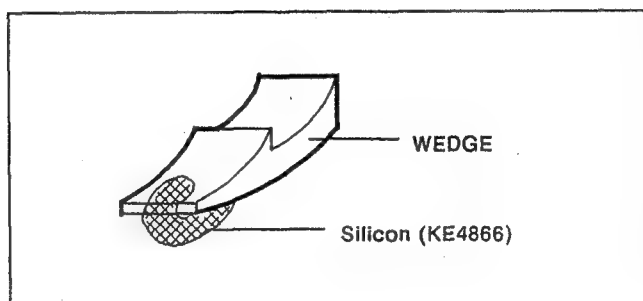
## PURITY · CONVERGENCE

### Precautions for Adjustment

1. Should it be unavoidable to use a magnet to correct the purity, the magnet to be pasted should be separated by more than 80 mm from the DEF. yoke (If the magnet is made closer to the DEF. yoke, distortion will appear on the screen).
2. As shown in Fig. on the right side, attach the wedges for fixing the DEF. YOKE.  
Moreover, apply silicon (KE4866) on the tips of the wedges. In this case, be sure not to apply it beside the tips.
3. In principle, any convergence correction piece should not be used. If unavoidable to do so, use it in a diagonal direction. Moreover, four or more correction pieces should not be used.



Back of CRT





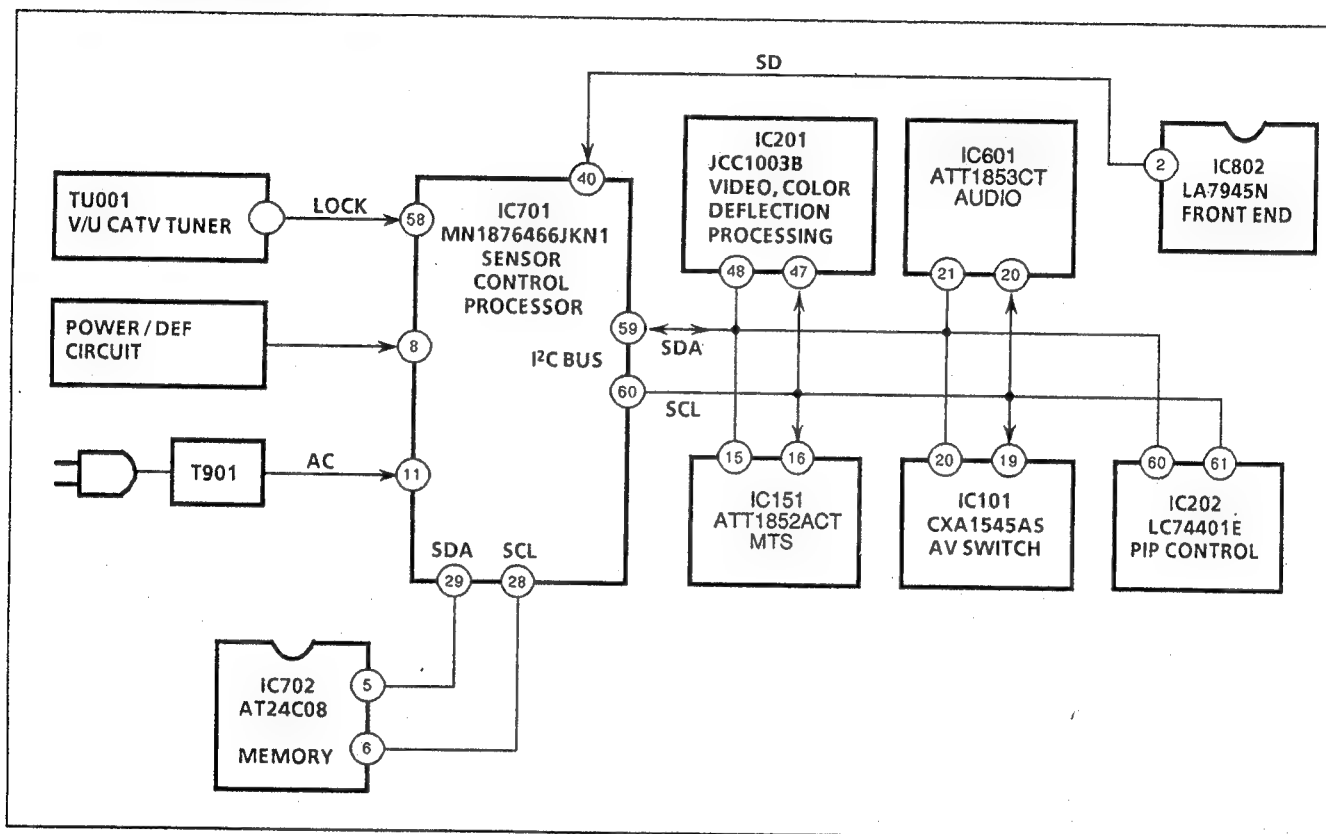
## ■ SELF CHECK FUNCTIONS

### OUTLINE

This model includes a self check function that checks the circuit operating status and in event of malfunction, displays and stores the data in a memory. The data are stored in an I<sup>2</sup>C (IC702) memory.

Fault detection starts with the I<sup>2</sup>C bus and is performed according to the input states of the control lines connected to the main CPU.

### System connection diagram



### USAGE

#### Self check display mode entry

- 1) Set the SERVICE ADJUSTMENT MODE (see page 2-16).
- 2) At the service mode menu, select the SELF-CHECK MODE.
- 3) The screen indicates as shown in the table and the self check display mode is entered.

#### Self check display mode release

- 1) To save the fault history  
Press the EXIT key of the remote controller or disconnect the power cord from the AC outlet.
- 2) To delete (reset) the fault history  
Use the power key of the remote controller (or main power switch of the TV set mainframe,) to switch off the power.

#### Fault history

The fault history counts up to a maximum of 9 times for each item. If the number of times exceeds 9, the display remains at 9.

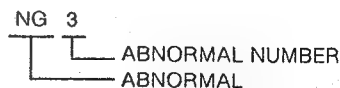
The fault history remains stored in the memory until deleted.

※ The sync signal (presence or absence) is not counted or stored.

#### < Self Check Function display mode >

BUS			
TUN	NG1	MEM	GOOD
POW/		VCD	NG1
DEF	GOOD	TONE	GOOD
SYNC	GOOD	MTS	NG3
TIM	GOOD	SW	GOOD
		PIP	GOOD

GOOD : NORMAL



※ Since sync is not counted, the fault times are not displayed.

### Self check function operation

In addition to an actual fault, the following cases can be interpreted as faults to produce NG display and count.

- 1) Pulse or other type interference temporarily preventing signal transfer between circuits.
- 2) At power on / off, power supply (Vec) rise / fall timing deviation of ICs corresponding to the I<sup>2</sup>C bus can cause NG indications for multiple items, which can conversely interfere with check.

In cases where symptoms can be expected to recur, erasing (resetting) the fault history is recommended to ensure storing new check data.

### CONTENTS

Self check is performed regarding the items indicated in the table.

Check item	Display name	Contents(check location)	Check signal(line)	Detection method
TUNER	TUN	Normal tuner operation [UV001 CEEM245-B02]	LOCK	Check for lock signal produced within a fixed time period(350ms) during channel selection.
POWER / DEF CIRCUIT	POW/DEF	Over current protector operation and over voltage protector operation.	B1 CURRENT & X-RAY DET VOLTAGE	Detection starts 5 seconds after main power ON and sub power ON. Error interpreted if faulty pulse input for more than 1 ms.  The remote controller power switch remains inoperative until the power cord is disconnected, then reconnected to the AC outlet.
SYNC SIGNAL PRESENCE OR ABSENCE	SYNC	Presence or absence of video(sync) signal input [IC201, JCC1003B]	SD	Check for high potential from IC SD output pin after the self check display mode.
TIMER	TIM	Power supply frequency fluctuation(change)	AC	AC pulse counted periodically. Except for directly after CPU reset, Power supply frequency change from 50 to 60Hz, or from 60 to 50 Hz is checked during operation.

### (I<sup>2</sup>C BUS)

Check item	Display name	Contents(check location)	Check signal(line)	Detection method
MEMORY	MEM	Normal memory read /write operation [IC702 AT24C08]	SDA	At power ON, a special pattern is written into a special address. This is read out and compared.
Video, color, deflection process	VCD	Normal IC operation [IC201 JCC1003B]	SDA	Check that data are sent from IC in response to CPU request
Audio control	TONE	Normal IC operation [IC601 ATT1853CT]	SDA	Check that data are sent from IC in response to CPU request
MTS demodulation	MTS	Normal IC operation [IC151 ATT1852ACT]	SDA	Check that data are sent from IC in response to CPU request
Input switching	SW	Normal IC operation [IC101 CXA1545AS]	SDA	Check that data are sent from IC in response to CPU request
PIP control	PIP	Normal IC operation [IC202 LC74401E]	SDA	Check that data are sent from IC in response to CPU request


AV-27/31/35BP5  
AV-31BM5

# AV-27BP5(US/CA) /AV-35BP5(US/CA) AV-31BP5(US/CA) /AV-31BM5(US/CA)

## STANDARD CIRCUIT DIAGRAM

### NOTE ON USING CIRCUIT DIAGRAMS

#### 1.SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

#### 2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal :Color bar signal
  - (2)Setting positions  
of each knob/button  
and variable resistor :Original setting position  
when shipped
  - (3)Internal resistance of tester :DC 20k $\Omega$ /V
  - (4)Oscilloscope sweeping time :H  $\Rightarrow$  20 $\mu$ S/div  
:V  $\Rightarrow$  5mS/div  
:Others  $\Rightarrow$  Sweeping time is  
specified
  - (5)Voltage values :All DC voltage values
- \* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

#### 3.INDICATION OF PARTS SYMBOL[EXAMPLE]

- In the PW board :R1209 $\rightarrow$ R209

#### 4.INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1)Resistors

- Resistance value

No unit :[ $\Omega$ ]  
K :[K $\Omega$ ]  
M :[M $\Omega$ ]

- Rated allowable power

No indication :1/6[W]  
Others :As specified

- Type

No indication :Carbon resistor  
OMR :Oxide metal film resistor  
MFR :Metal film resistor  
MPR :Metal plate resistor  
UNFR :Uninflammable resistor  
FR :Fusible resistor

- \* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

##### (2)Capacitors

- Capacitance value

1or higher :[pF]  
less than 1 :[ $\mu$ F]

- Withstand voltage

No indication :DC50[V]  
Others :DC withstand voltage[V]  
AC indicated :AC withstand voltage[V]

- \* Electrolytic Capacitors

47/50[Example]:Capacitance value[ $\mu$ F]/withstand voltage[V]





##### •Type

No indication :Ceramic capacitor  
MY :Mylar capacitor  
MM :Metalized mylar capacitor  
PP :Polypropylene capacitor  
MPP :Metalized polypropylene capacitor  
MF :Metalized film capacitor  
TF :Thin film capacitor  
BP :Bipolar electrolytic capacitor  
TAN :Tantalum capacitor

##### (3)Coils



No unit :[ $\mu$ H]  
Others :As specified

##### (4)Power Supply




 :B1(135.5V  $\pm$  1V)  
 :B2(12V)  
 :9V  
 :5V

\* Respective voltage values are indicated.





##### (5)Test Point

 : Test point  
 : Only test point display



##### (6)Connecting method

 : Connector  
 : Wrapping or soldering  
 : Receptacle

##### (7)Ground symbol

 : LIVE side ground  
 : ISOLATED(NEUTRAL) side ground  
 : EARTH ground  
 : DIGITAL ground

#### 5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (primary : ) side GND and the ISOLATED (NEUTRAL : ) side GND. Therefore, care must be taken for the following points.

- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED (NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2) Do not short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

# CONTENTS

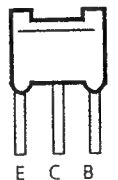
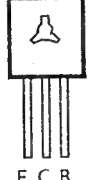
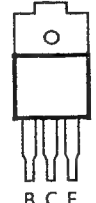
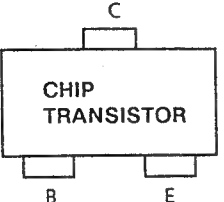

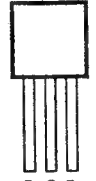
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## CIRCUIT DIAGRAM AND PWB PATTERNS ALLOCATION

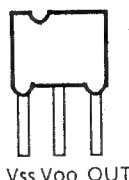

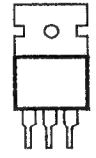
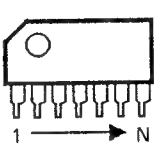
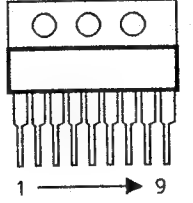
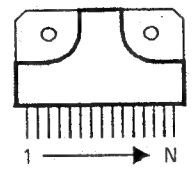
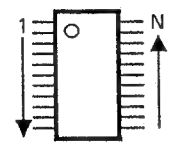
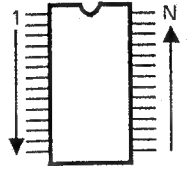
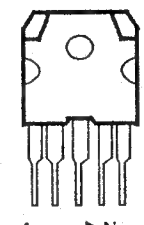
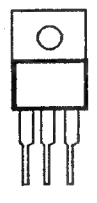
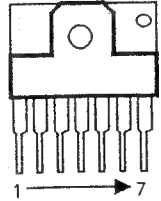
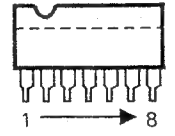
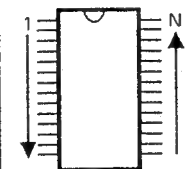
Model No.		AV-27BP5	AV-31BP5	AV-31BM5	AV-35BP5
P. W. B.					
POWER / DEF. PWB	P. W. B.	P.3-15~3-17	P.3-18~3-20	←	P.3-21~3-23
	PATTERN	P.3-59~3-60	←	←	P.3-61~3-62
CRT SOCKET PWB	P. W. B.	P.3-24	P.3-37~3-38	←	P.3-39~3-40
	PATTERN	P.3-55~3-56	←	←	P.3-63~3-64
MAIN PWB with CONTROL PWB	P. W. B.	P.3-25~3-28	P.3-29~3-32	P.3-33~3-36	P.3-41~3-44
	PATTERN	P.3-57~3-58	←	←	←
AV TERM. PWB	P. W. B.	P.3-45~3-46	←	P.3-47~3-48	P.3-49~3-50
	PATTERN	P.3-65~3-66	←	←	P.3-67~3-68
PIP MODULE PWB	P. W. B.	P.3-53~3-54	←	———	P.3-53~3-54
	PATTERN	P.3-71~3-72	←	———	P.3-71~3-72
DBF PWB	P. W. B.	———	———	———	P.3-51~3-52
	PATTERN	———	———	———	P.3-69~3-70
CONTROL PWB	P. W. B.	P.3-25~3-28	P.3-29~3-32	P.3-33~3-36	P.3-41~3-44
	PATTERN	P.3-73~3-74	←	←	P.3-73~3-74
REMOTE CONTROL UNIT	P. W. B.	P.3-57	P.3-57	P.3-58	P.3-57
	UNIT No.	RM-C723	RM-C723	RM-C722	RM-C723

# SEMICONDUCTOR SHAPES (\* = Bottom view)

## TRANSISTORS

 <p>2SC3619 2SC4502-T</p> <p>E C B</p>	 <p>2SC3271(NP)</p> <p>E C B</p>	 <p>2SD1408(OY) 2SA1306(Y) 2SC3298(Y) 2SD2348 2SC4544-C1</p> <p>B C E</p>
 <p>CHIP TRANSISTOR</p> <p>B E</p>	<p>2SA949(Y)C1 2SA933S(QR)-T 2SC1815(YG) 2SA1015(YG) 2SA966(OY) 2SC2655(Y) 2SC1360 2SA2785(JH)-T</p> <p>2SA1321-T 2SC3334-T 2SC1959(Y) 2SC2878(B) 2SA673(C) 2SB774(RS) 2SC2482(C1) 2SC3811(R)</p> <p>              * S G D         </p> <p>2SK301(P)-T SF0R3B42(C1)-T</p>	
<p>DTC363TK-W DTA144TK-W DTC323TK-W DTC144EK-W</p> <p>2SA1022(BC)-W 2SA1162(YG)-W 2SC2778(BC)-W 2SC2712(YG)-W 2SC3773(3-4)-W 2SC2412K(QR)-W</p>	 <p>2SA933(QR) 2SA933S(QR) 2SA1309A(QR) DTC124ES DTC323TS</p> <p>E C B</p>	<p>2SC2785(JH) 2SC1740S(QR) 2SC1740(QR) 2SC3311A(QR) 2SC2458(GR)-T 2SA1048(GR)-T</p>

## ICs

 <p>MN1280-K</p> <p>Vss Voo OUT</p>	 <p>* IN E OUT</p> <p>RC78L05A-Y TA78L005AP TA78L012AP AN78L05-Y AN78L09-Y</p>	 <p>LM2940CT-12 TA78005AP TA78012AP AN7805 UPC2412HF UPC2405HF TA78L009AP</p> <p>IN E OUT</p>	 <p>LA7952</p> <p>1 → N</p>
 <p>LA4261 STR-S6301</p> <p>1 → 9</p>	 <p>TA8216H MC13516T2 MC13500T2</p> <p>1 → N</p>	 <p>LA7577N LA7945N</p> <p>1 → N</p>	
 <p>MN1876466JKN1 VC2024Z MN1873221JGJ5 MN1872013JGU4 TA8759AN TA7825AN TA8720AN</p> <p>1 → N</p>	<p>M65109BSP M51365SP TA8662N ATT1852ACT ATT1853CT LC74588-04 CXA1545AS JCC1003B</p>	 <p>STR30130</p> <p>1 → N</p>	 <p>SE120N SE135N L7805ABV KIA7809PI</p> <p>IN C E</p>
 <p>LA7838 LA7845</p> <p>1 → 7</p>	 <p>BA15218N XRA15218N</p> <p>1 → 8</p>	 <p>ATT1852ACT ATT1853CT LC74588-04 CXA1545AS AT24C08-10PC M37201M6-540SP</p> <p>1 → N</p>	<p>TDA1526 M52005P CXL5005P FCB61C65-70P SAA5231 CXA1124BS M50253P</p>

## CHANNEL CHART (US)

MODE	BAND	CHANNEL	TUNER
TV	CATV	REAL DISP	BAND
○	○	VL	I
		02 03 04 05 06 07 08 09 10 11 12 13	
		VH	II
		14 15 16 17 18 19 20 21 22	
		MID	
		23 24 25 26 27 28 29 30 31 32 33 34 35 36	
		SUPER	II
		37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125	
		HYPER	IV
		126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000	
		ULTRA	IV

MODE		BAND	CHANNEL		TUN
TV	CATV		REAL	DISP	
X	O	ULTRA	W + 35	71	
			W + 36	72	
			W + 37	73	
			W + 38	74	
			W + 39	75	
			W + 40	76	
			W + 41	77	
			W + 42	78	
			W + 43	79	
			W + 44	80	
			W + 45	81	
			W + 46	82	
			W + 47	83	
			W + 48	84	
			W + 49	85	
			W + 50	86	
			W + 51	87	
			W + 52	88	
			W + 53	89	
			W + 54	90	
			W + 55	91	
			W + 56	92	
			W + 57	93	
			W + 58	94	
			W + 59	100	
			W + 60	101	
			W + 61	102	
			W + 62	103	
			W + 63	104	
			W + 64	105	
			W + 65	106	
			W + 66	107	
W + 67	108				
W + 68	109				
W + 69	110				
W + 70	111				
W + 71	112				
W + 72	113				
W + 73	114				
W + 74	115				
W + 75	116				
W + 76	117				
W + 77	118				
W + 78	119				
W + 79	120				
W + 80	121				
W + 81	122				
W + 82	123				
W + 83	124				
W + 84	125				
	SUB	A-8	01		
	MID	A-4	96		
		A-3	97		
		A-2	98		
		A-1	99		
O	X	UHF	14		
			S		
TOTAL 180CH					69
VHF 124CH					
UHF 56CH					
NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES SPECIAL ADAPTERS MAY BE REQUIRED					

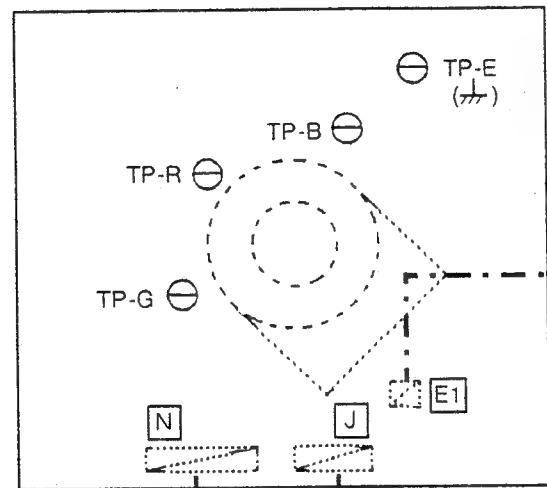


AV-27/31BP5  
AV-31BM5

AV-27/31BP5  
AV-31BM5

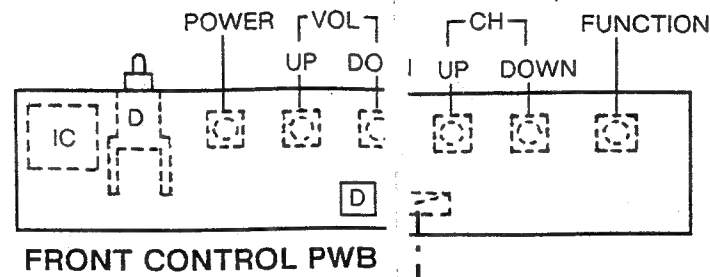
# MAIN PARTS LOCATION AND WIRING DIAGRAM(AV-27/31BP5 & 31BM5)

CRT SOCKET PWB (SOLDERED SIDE)



TOP  
↑

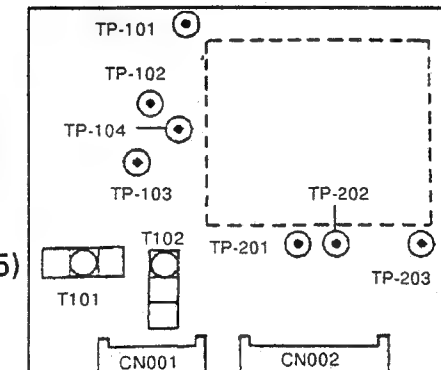
FRONT  
↑



FRONT CONTROL PWB

TOP  
↑

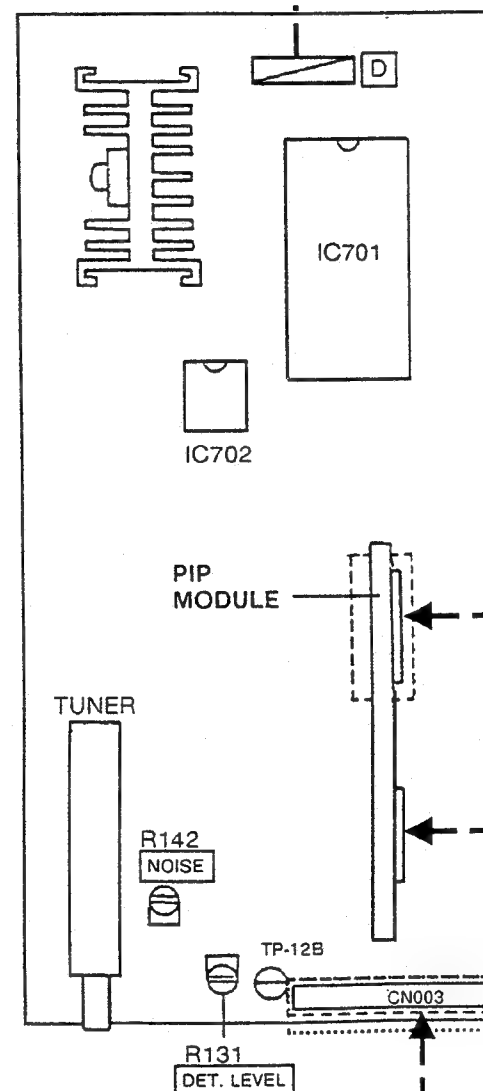
PIP MODULE  
(Except AV-31BM5)



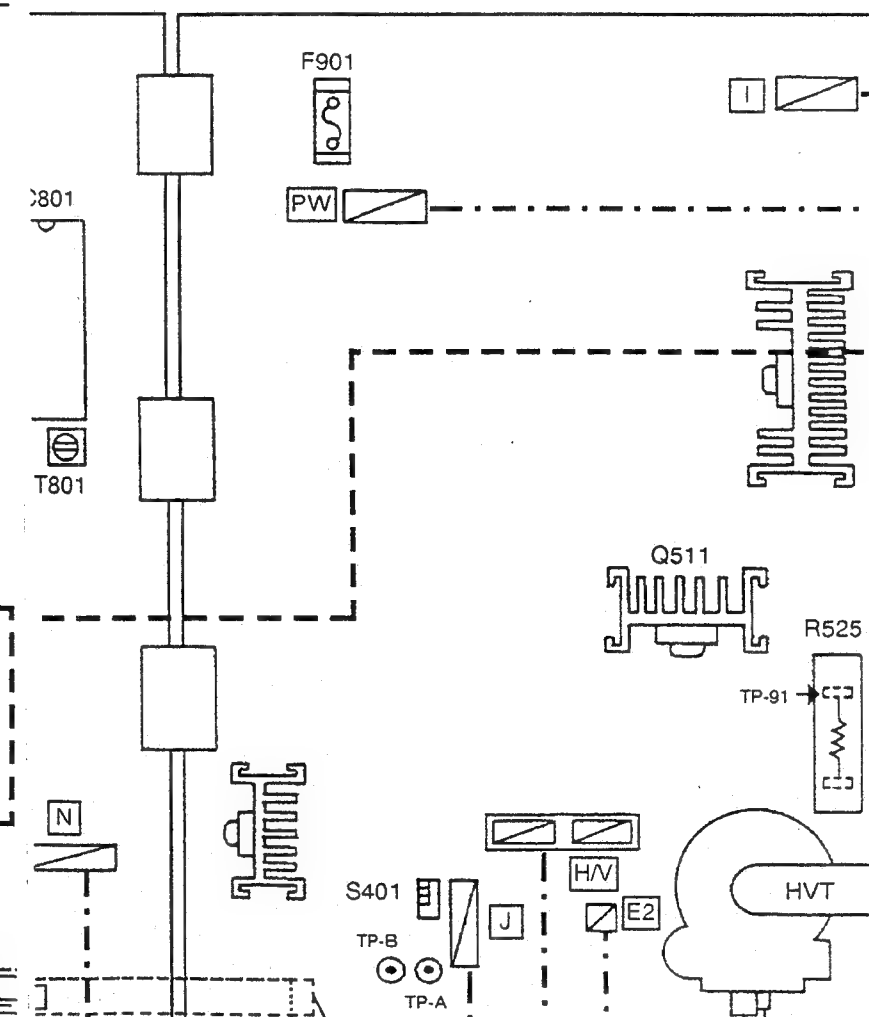
FRONT  
→

FRONT  
↑

MAIN PWB

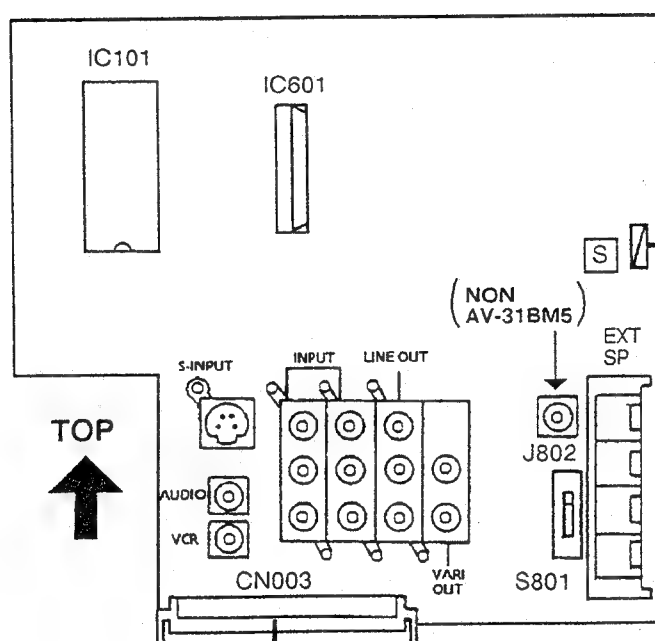


POWER / DEF. PWB



AV TERMINAL PWB

AV TERMINAL PWB



TOP  
↑

(No.50850) 3-5

3-6 (No.50850)

WIRING LIST (AV-27/31BP5 & AV-31BM5)

P.W.B. or PART NAME	CONNECTOR NAME	WIRE	CONNECTOR NAME	P.W.B. or PART NAME
MAIN PWB	D	↔	D	FRONT CONTROL PWB
MAIN PWB	J	↔	J	CRT SOCKET PWB
MAIN PWB	H / V	↔	WIRE	DEF. YOKE
MAIN PWB	N	↔	N	CRT SOCKET PWB
MAIN PWB	E2	↔	—	CRT EARTH
POWER PWB	I	↔	WIRE	DEG. COIL
POWER / DEF. PWB	PW	↔	WIRER	POWER CORD
AV TERMINAL PWB	S	↔	RECEPTACLE	SPEAKER (L/R)
CRT SOCKET PWB	GND	↔	WIRE	CRT EARTH

●NOTE : Refer to Main Parts Locations and Wiring Diagram (Page 3-5, Page 3-6) for detailed connector positions.

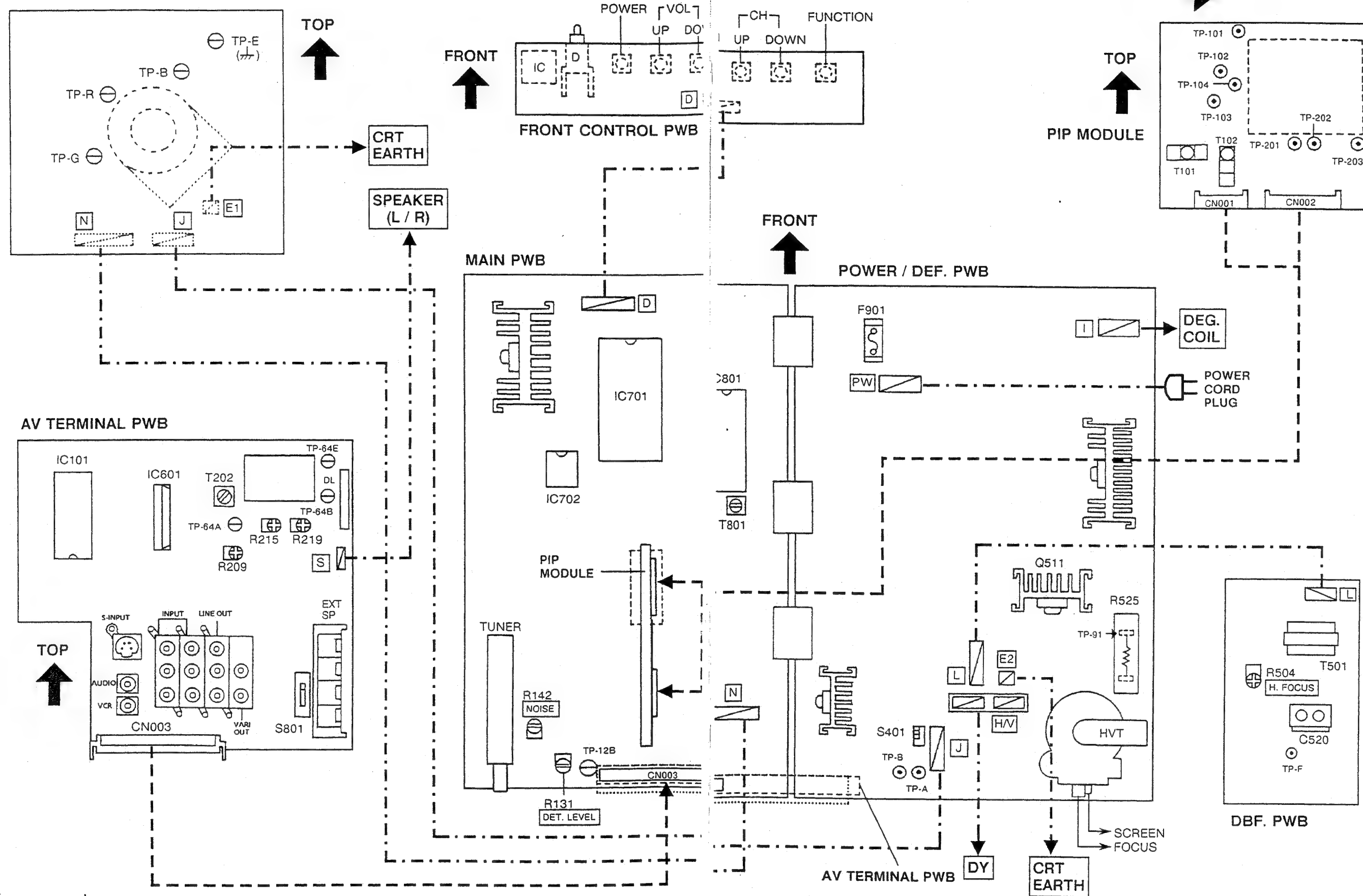
WIRING LIST (AV-35BP5)

P.W.B. or PART NAME	CONNECTOR NAME	WIRE	CONNECTOR NAME	P.W.B. or PART NAME
MAIN PWB	D	↔	D	FRONT CONTROL PWB
MAIN PWB	N	↔	N	CRT SOCKET PWB
POWER / DEF. PWB	E2	↔	WIRER	CRT EARTH
POWER / DEF. PWB	H / V	↔	WIRE	DEF. YOKE
POWER / DEF. PWB	J	↔	J	CRT SOCKET PWB
POWER / DEF. PWB	L	↔	L	DBF. PWB
POWER / DEF. PWB	I	↔	WIRE	DEG. COIL
POWER / DEF. PWB	PW	↔	WIRE	POWER CORD PLUG
AV TERMINAL PWB	S	↔	WIRE	SPEAKER (L/R)
CRT SOCKET PWB	E1	↔	WIRE	CRT EARTH

●NOTE : Refer to Main Parts Locations and Wiring Diagram (Page 3-9, Page 3-10) for detailed connector positions.

# MAIN PARTS LOCATION AND WIRING DIAGRAM(AV-35BP5)

CRT SOCKET PWB (SOLDERED SIDE)



The diagram illustrates the internal circuitry of a television receiver, organized into five main functional blocks:

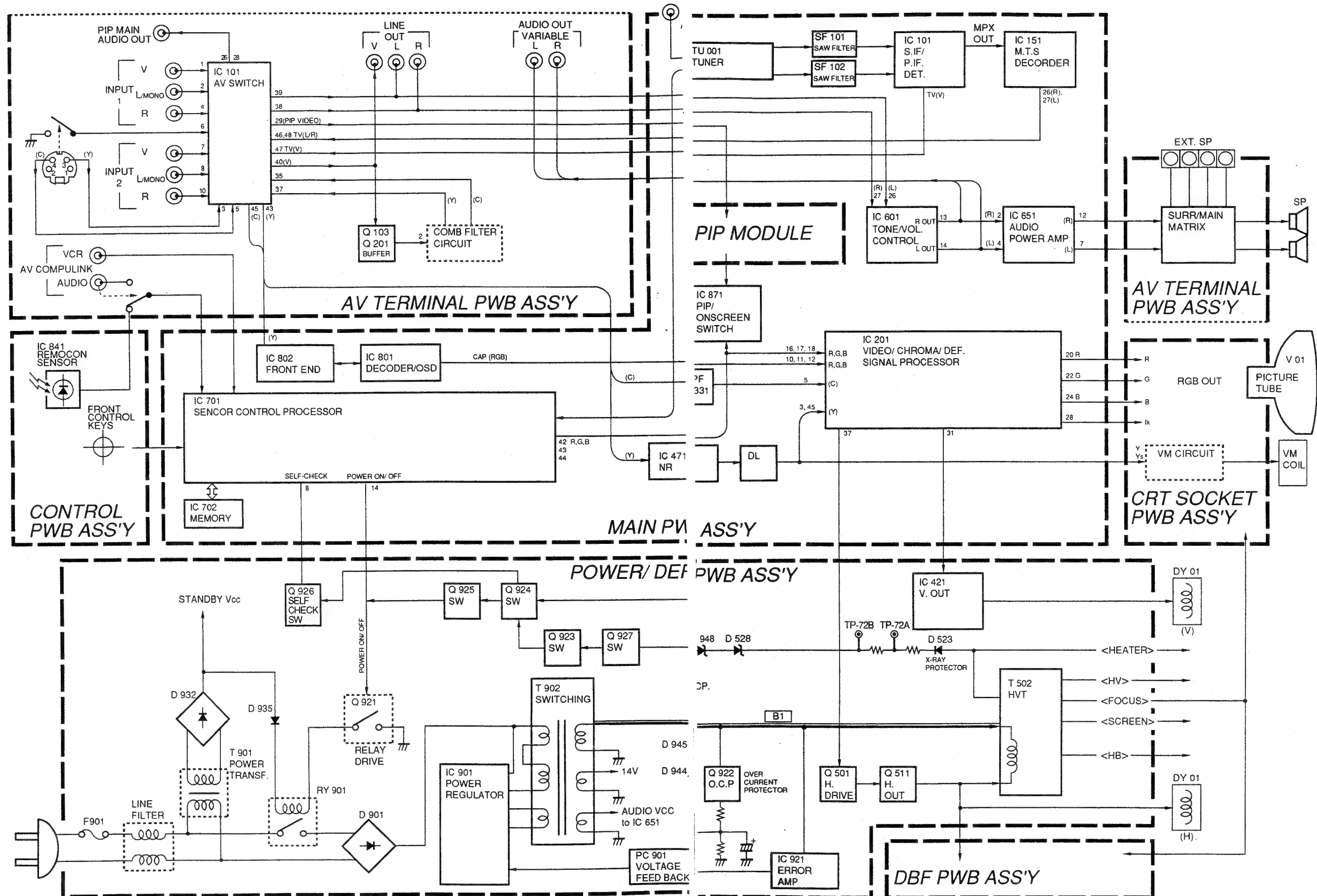
- AV TERMINAL PWB ASS'Y:** This section handles external inputs. It includes a PIP MAIN AUDIO OUT (NON AV-31BM5), an AV SWITCH (IC 101) with two inputs (L/MONO, R), and a COMB FILTER CIRCUIT (Q 103, Q 201 BUFFER). It also features a VCR input and an AV COMPULINK AUDIO input.
- CONTROL PWB ASS'Y:** This block manages the receiver's control logic. It includes a REMOCON SENSOR (IC 841), FRONT CONTROL KEYS, and a SENCOR CONTROL PROCESSOR (IC 701) which is connected to IC 702 MEMORY. It also includes a VCR and AV COMPULINK AUDIO input.
- MAIN PWB ASS'Y:** This is the central processing unit. It contains a FRONT END (IC 802), a DECODER/OSD (IC 801), and a VIDEO/CHROMA/DEF. SIGNAL PROCESSOR (IC 201). It also includes a TONE/VOL. CONTROL (IC 601) and an AUDIO POWER AMP (IC 651). The diagram shows various signal paths for video, audio, and control signals.
- POWER/DEF. & IB ASS'Y:** This section is responsible for power supply and deflection. It includes a POWER REGULATOR (IC 901), a VOLTAGE FEED BACK (PC 901), and a DEFLECTION Yoke Driver (Q 501, Q 511). It also features a THERMAL PROTECTOR (T 502 HVT) and a HEATER.
- CRT SOCKET PWB ASS'Y:** This block interfaces with the CRT. It includes a SURR/MAIN MATRIX and a PICTURE TUBE (V 01). It also features a REMOCON SENSOR (IC 841) and FRONT CONTROL KEYS.

The diagram shows the interconnections between these blocks, including signal paths for video, audio, and control signals, as well as power supply lines and deflection signals. Key components like ICs, transistors, diodes, and capacitors are labeled throughout the circuit.

AV-35BP5

AV-35BP5

## BLOCK DIAGRAM(AV-35BP5)



(No.50850) 3-13

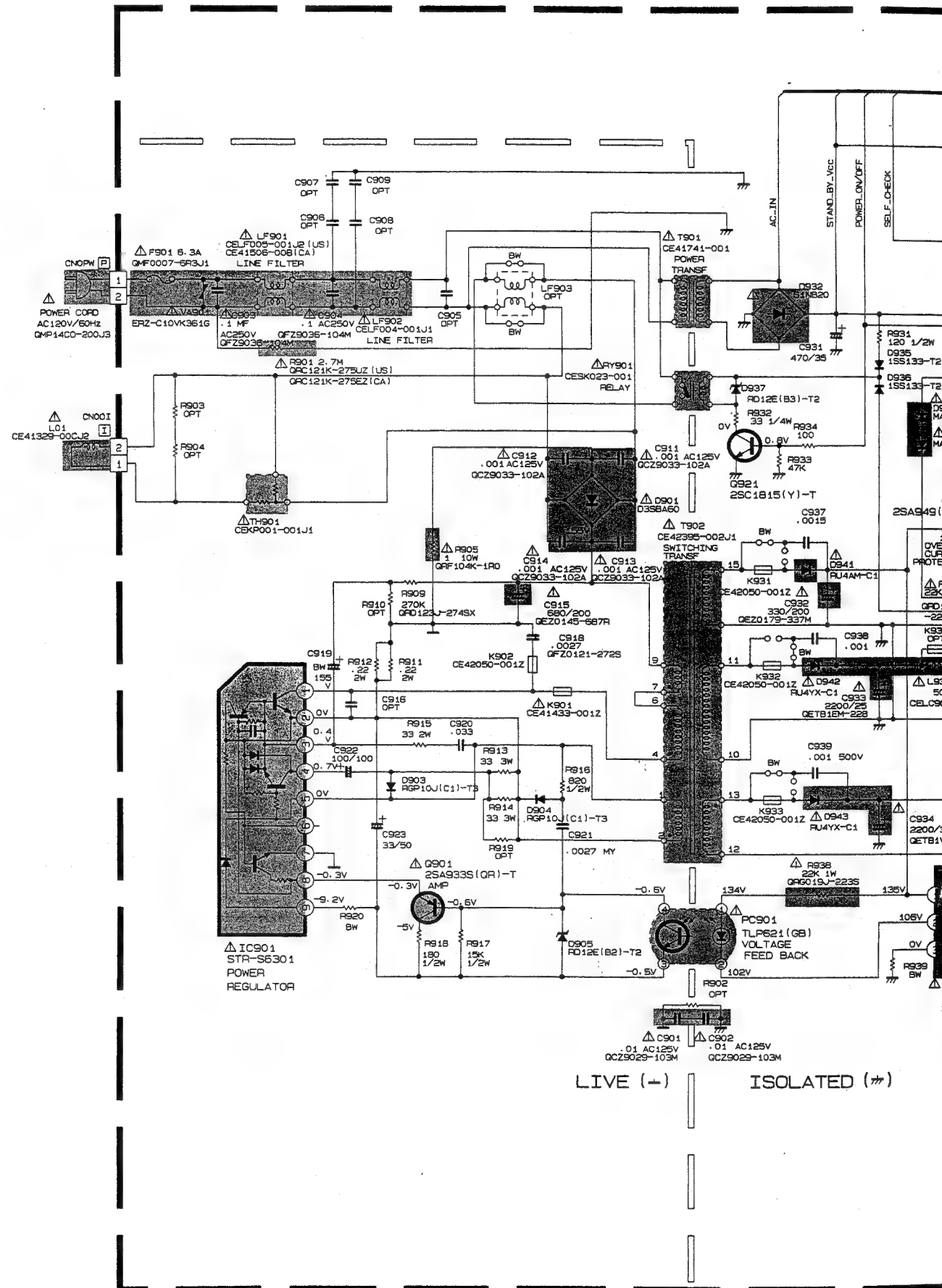
3-14 (No.50850)

# CIRCUIT DIAGRAMS AND PWB PATTERNS

## POWER / DEF. PWB CIRCUIT DIAGRAM (AV-27BP5)

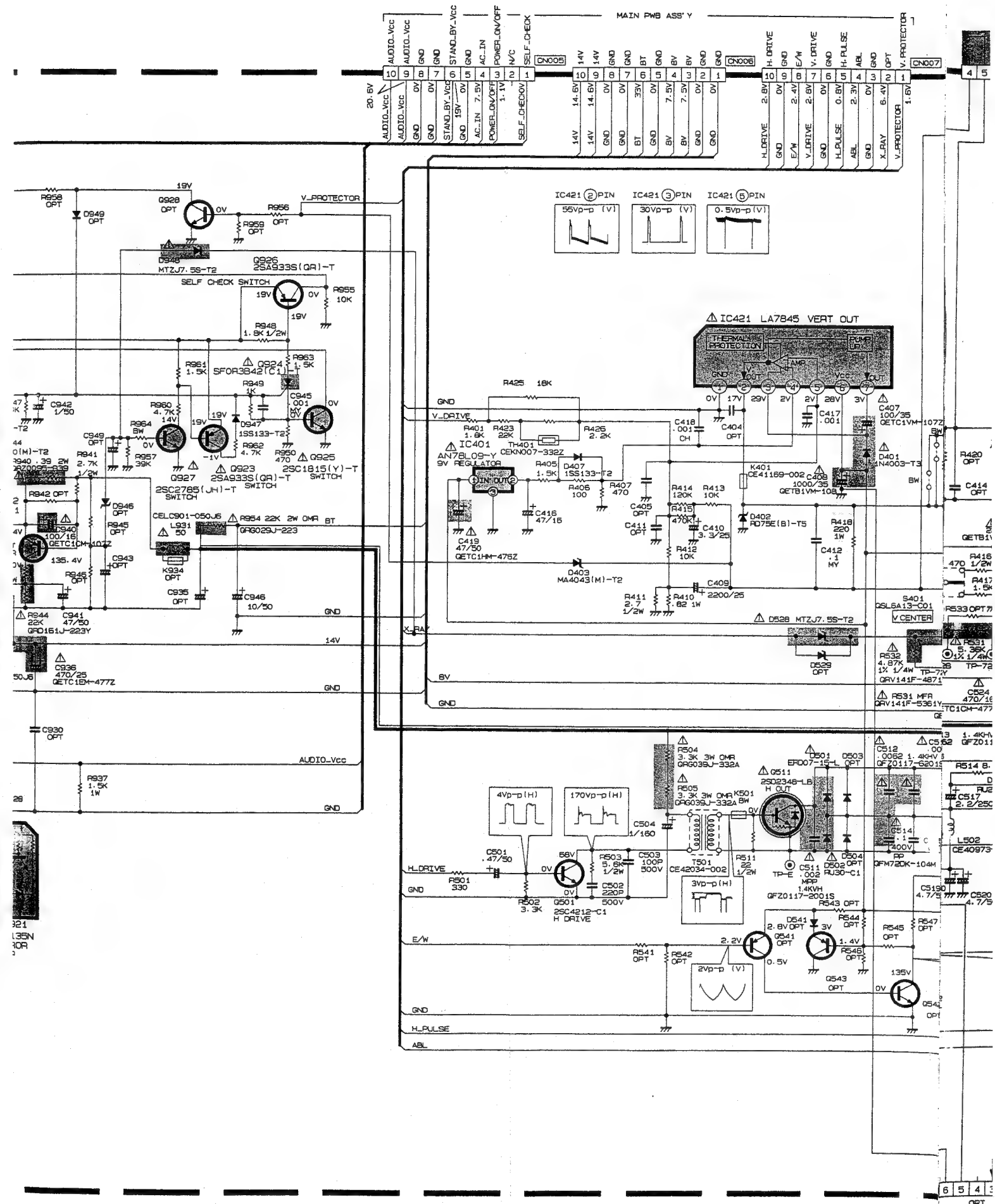
AV-27BP5

AV-27BP5



LIVE (—) ISOLATED (≡)

(No.50850) 3-15



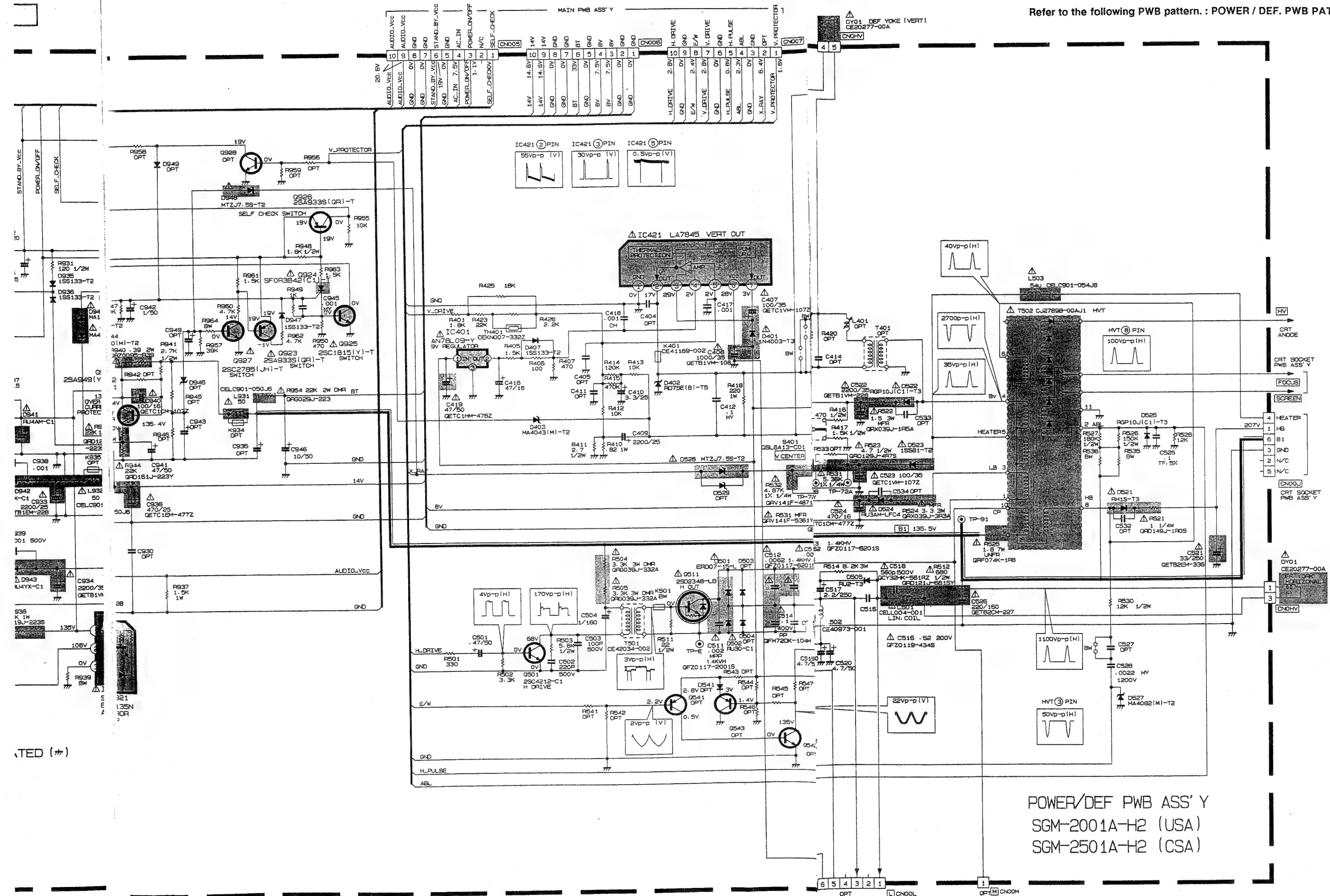
3-16 (No.50850)



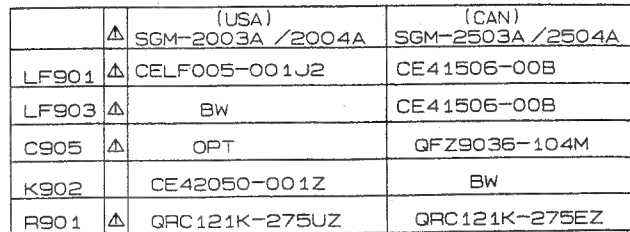
Refer to the following PWB pattern : POWER / DEF. PWB PATTERN page 3-59~3-60.

V-27BP5

AV-27BP5



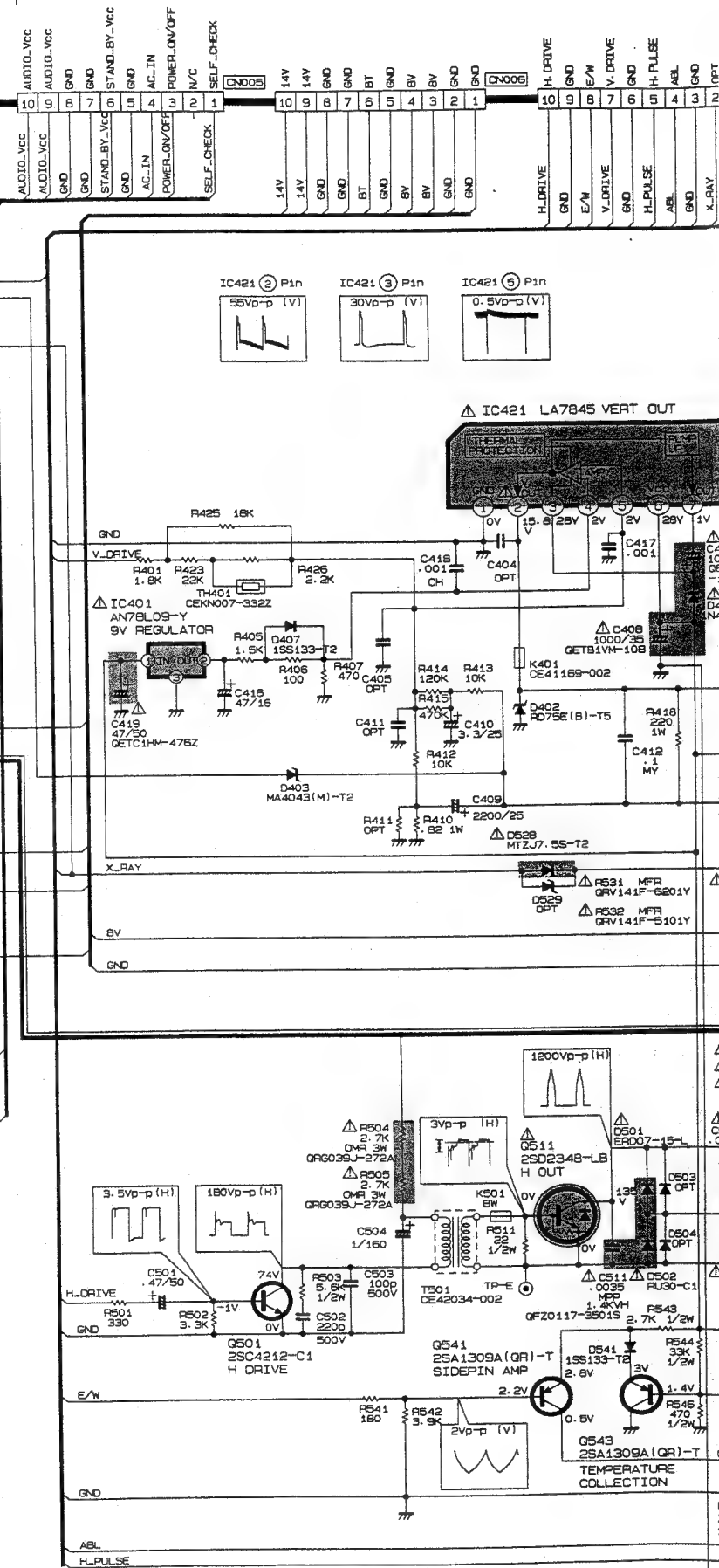
MAIN PWB ASS'Y





AV-31BP5  
AV-31BM5

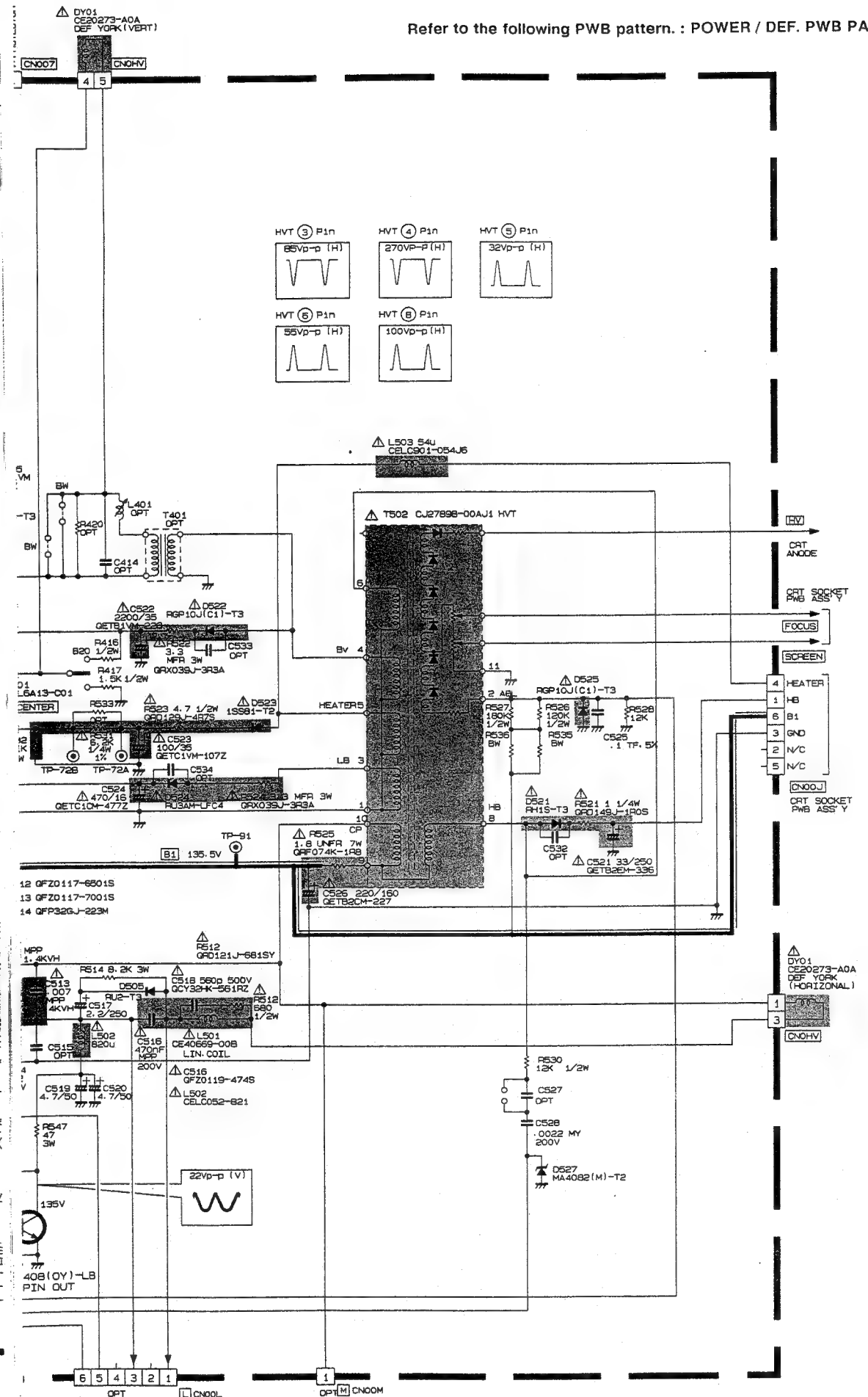
MAIN PWB ASS'Y



(No.50850) 3-19

AV-31BP5  
AV-31BM5

Refer to the following PWB pattern : POWER / DEF. PWB PATTERN page 3-59~3-60.

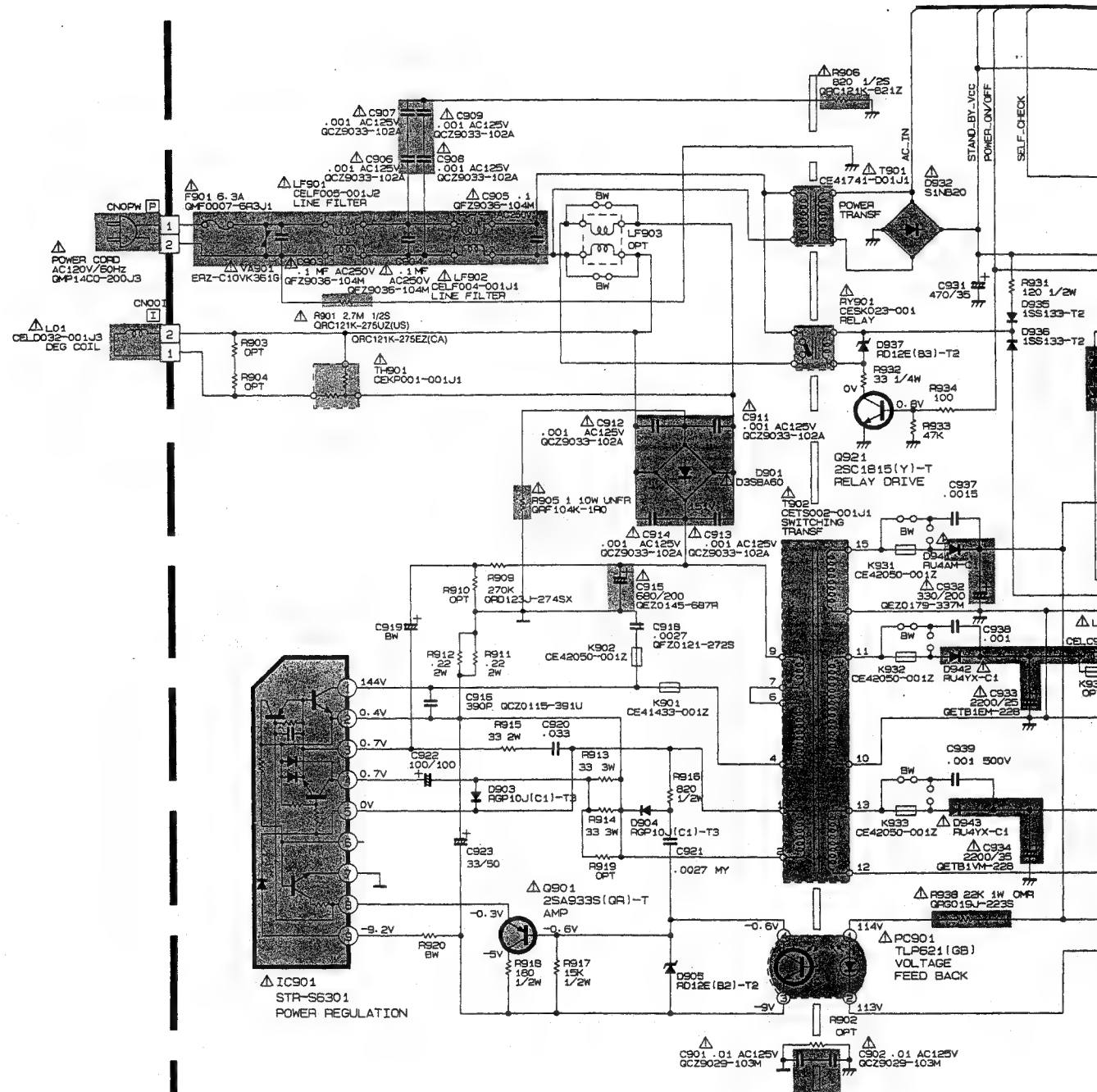


3-20 (No.50850)

AV-35BP5

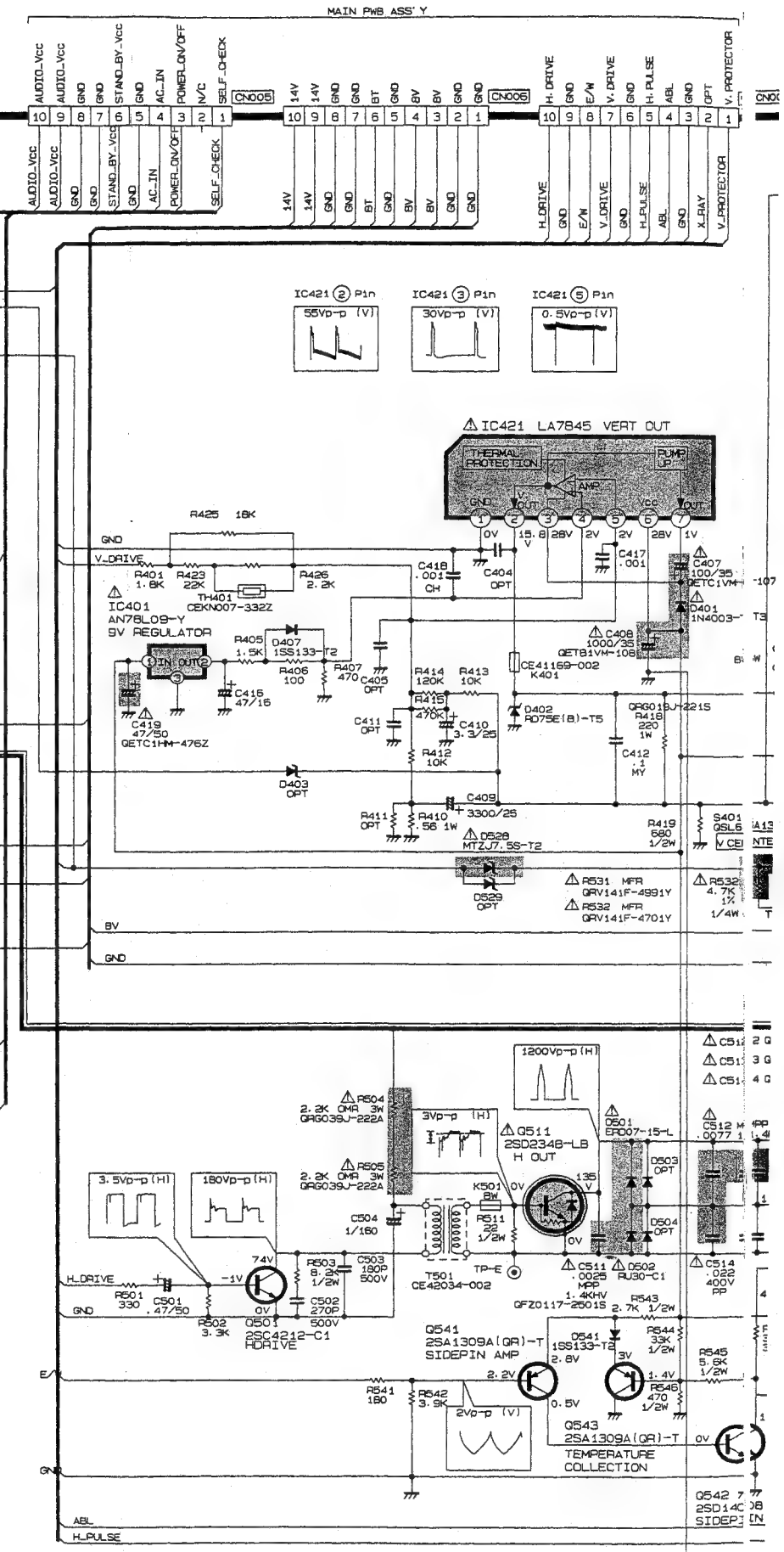
AV-35BP5

POWER / DEF. PWB CIRCUIT DIAGRAM (AV-35BP5)



LIVE (—) ISOLATED (≡)

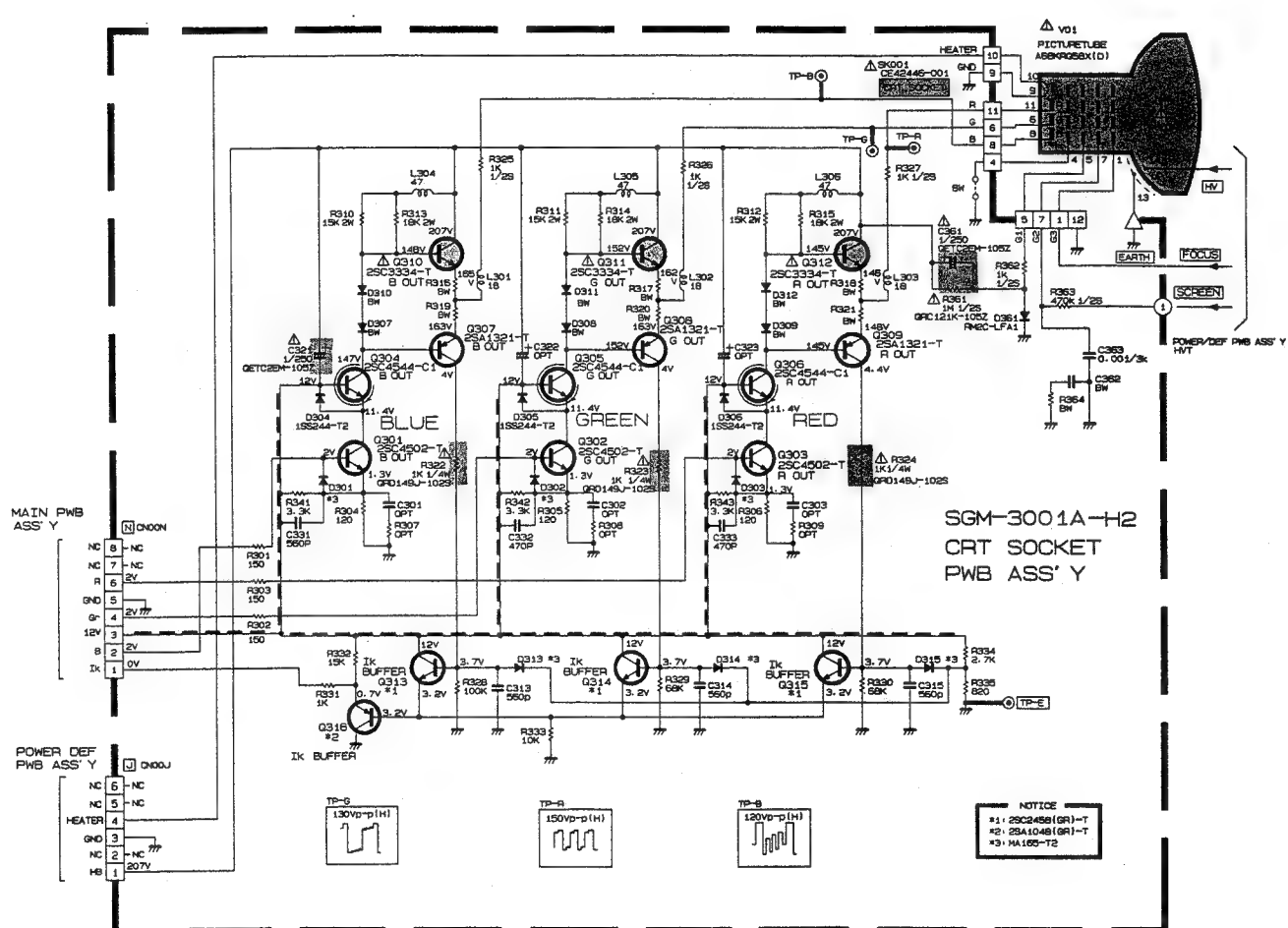
POWER DEF PWB ASS'Y  
SGM-2006A-H2: (AV-35BP5 US)  
SGM-2506A-H2: (AV-35BP5 CA)



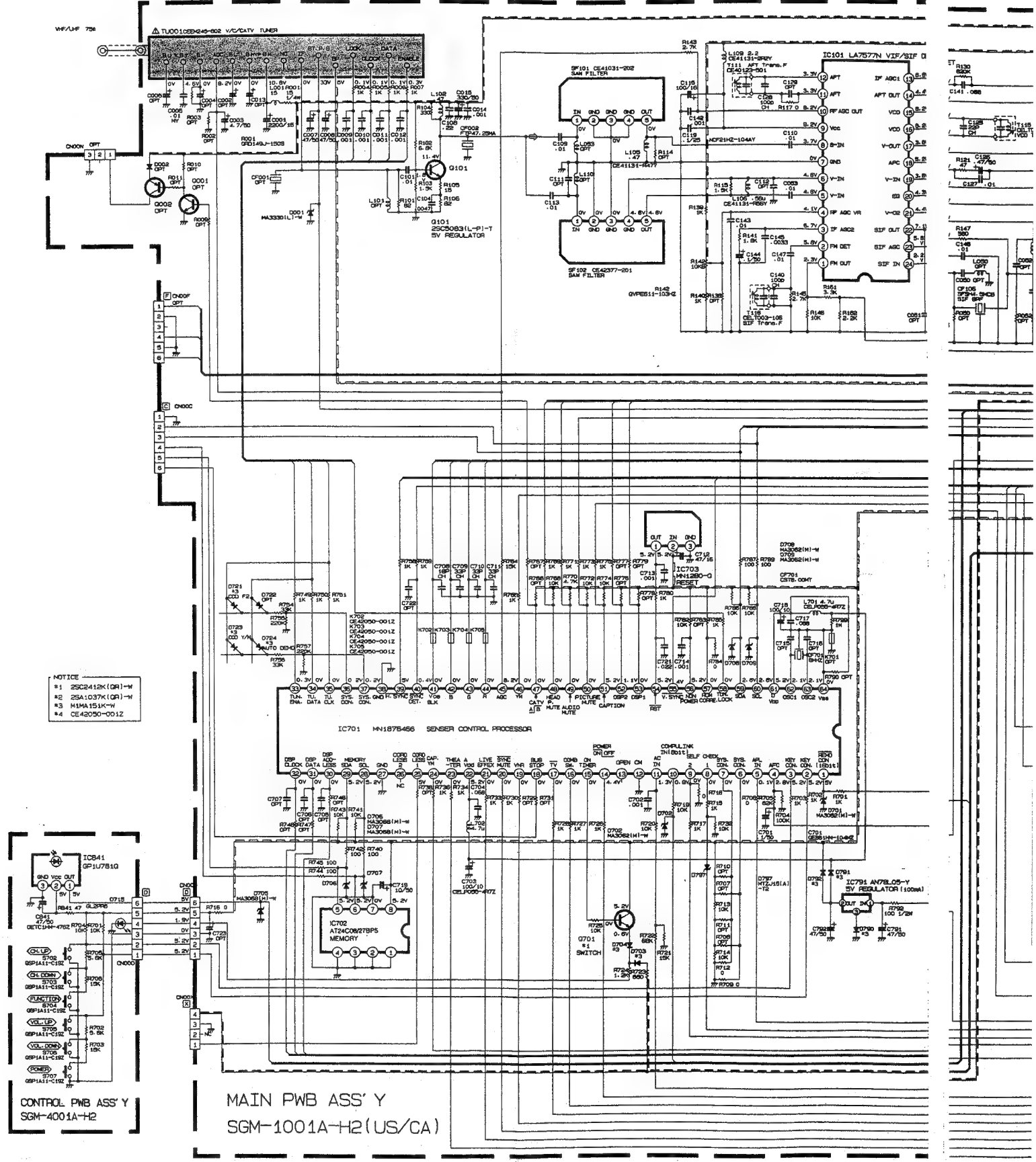


CRT SOCKET PWB CIRCUIT DIAGRAM (AV-27BP5)

Refer to the following PWB pattern : CRT SOCKET PWB PATTERN page 3-55~3-56.



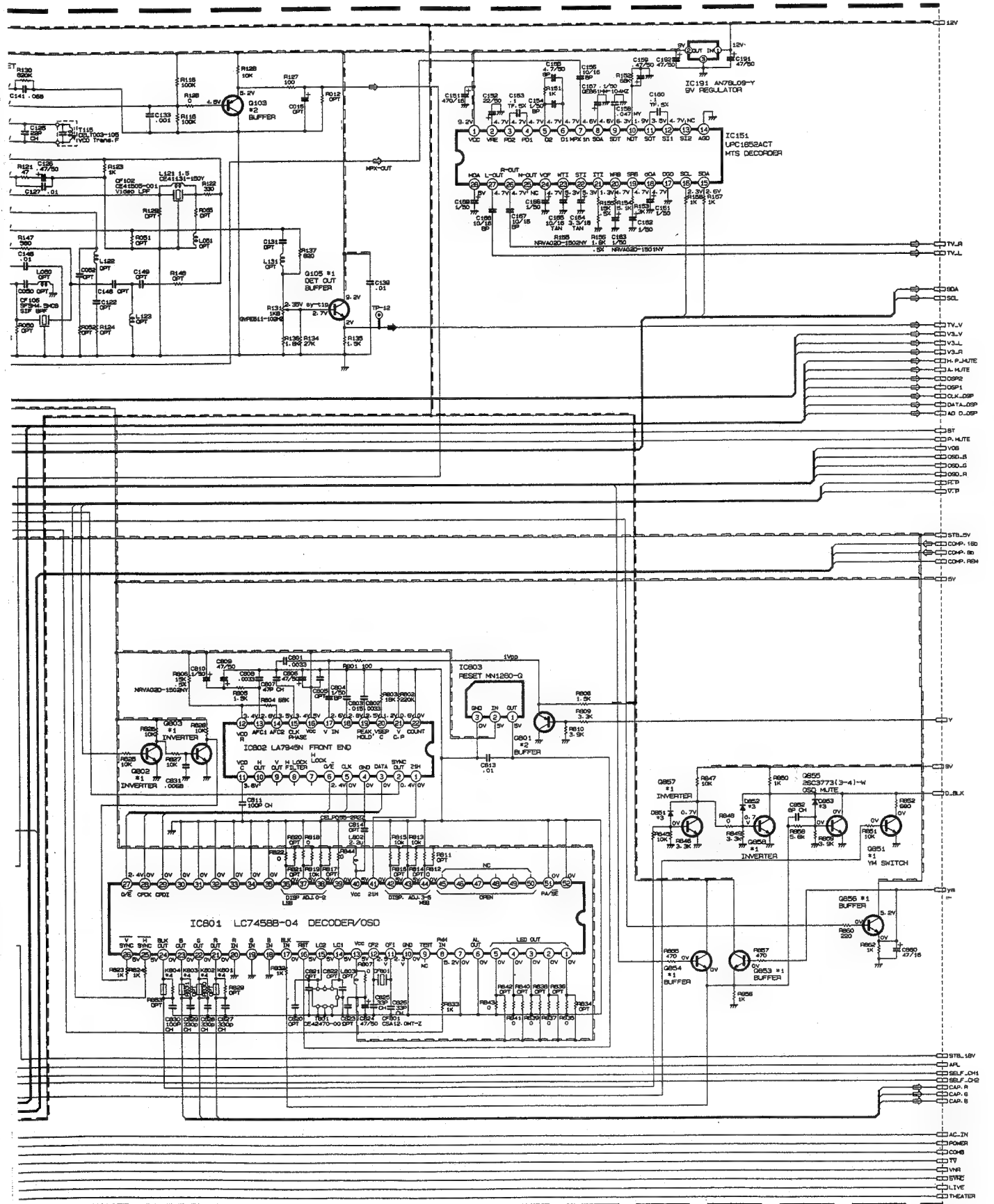
MAIN & CONTROL PWB CIRCUIT DIAGRAMS (AV-27BP5)



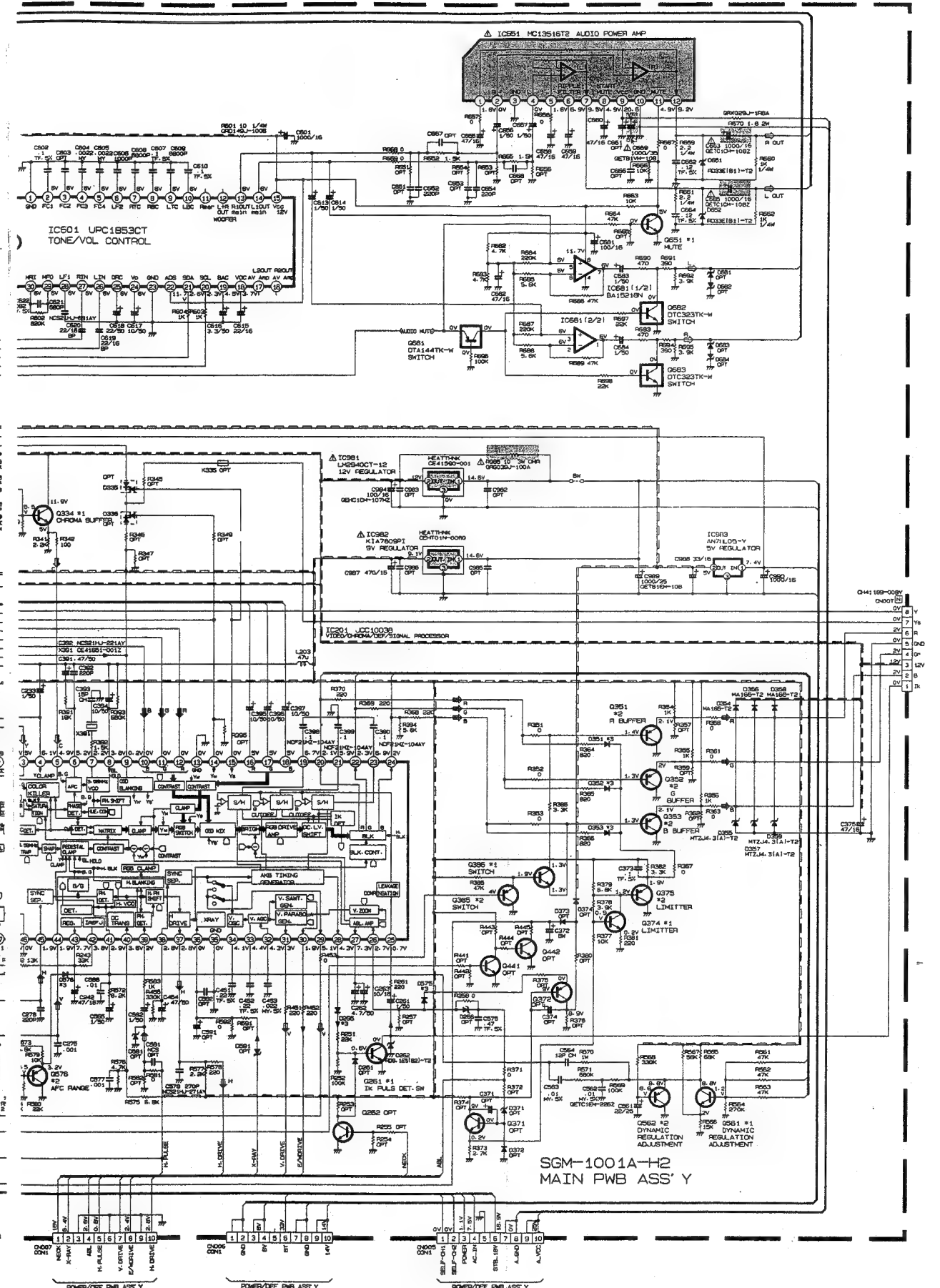


**AV-27BP5**

Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58, CONTROL PWB PATTERN page 3-73~3-74.

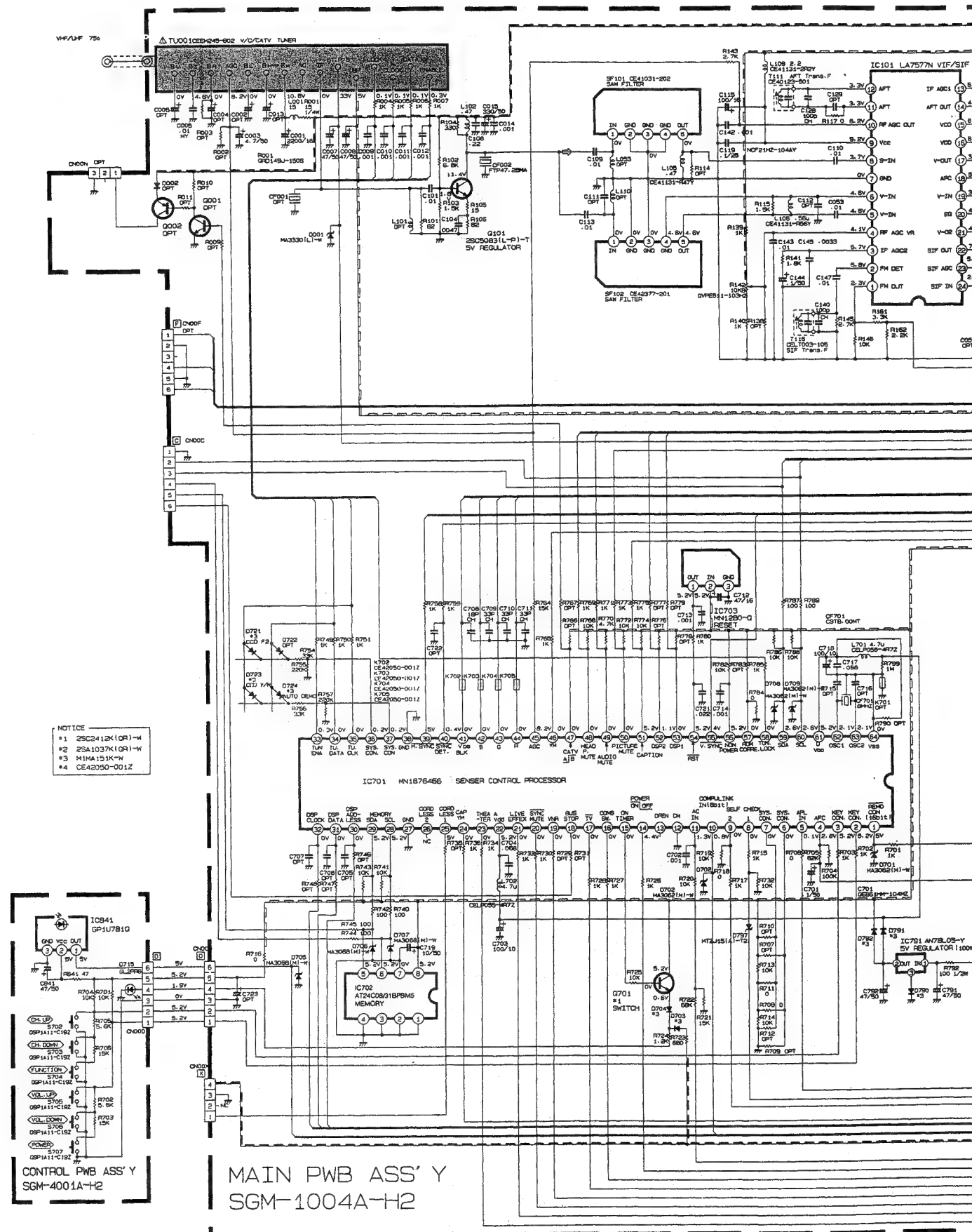


Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58.

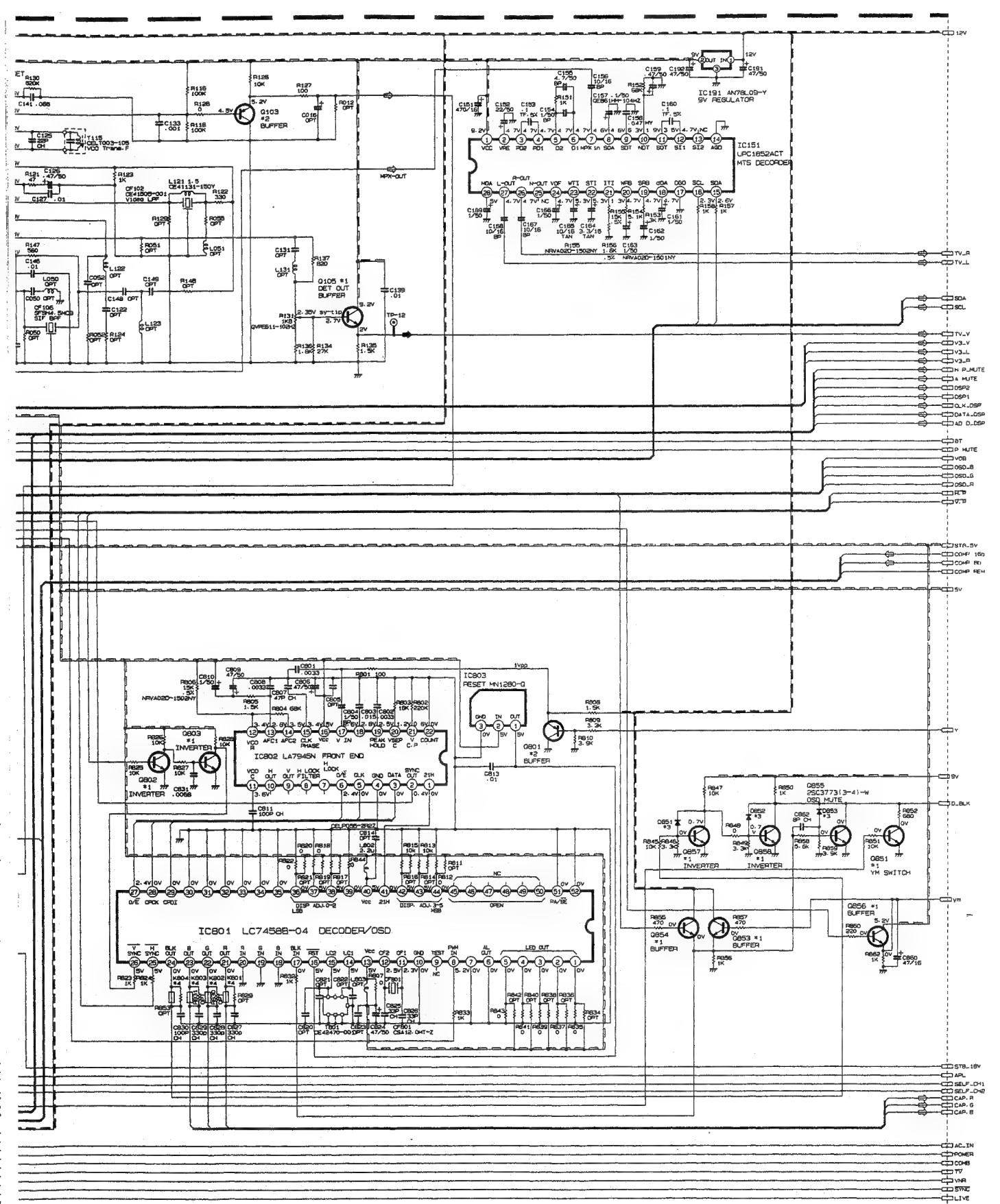


## MAIN &amp; CONTROL PWB CIRCUIT DIAGRAMS (AV-31BP5)

Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58, CONTROL PWB PATTERN page 3-73~3-74.



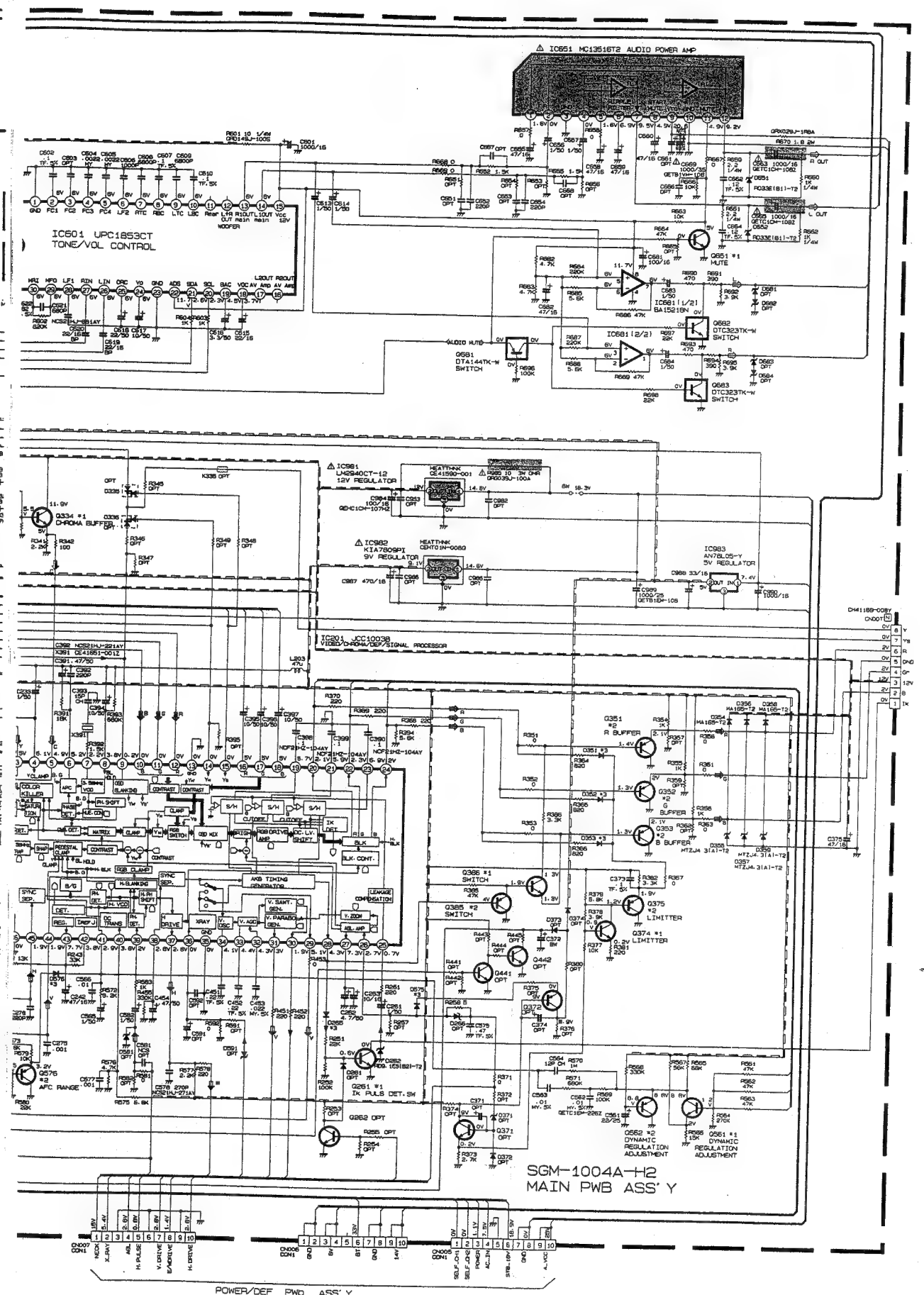
(No.50850) 3-29



3-30 (No.50850)

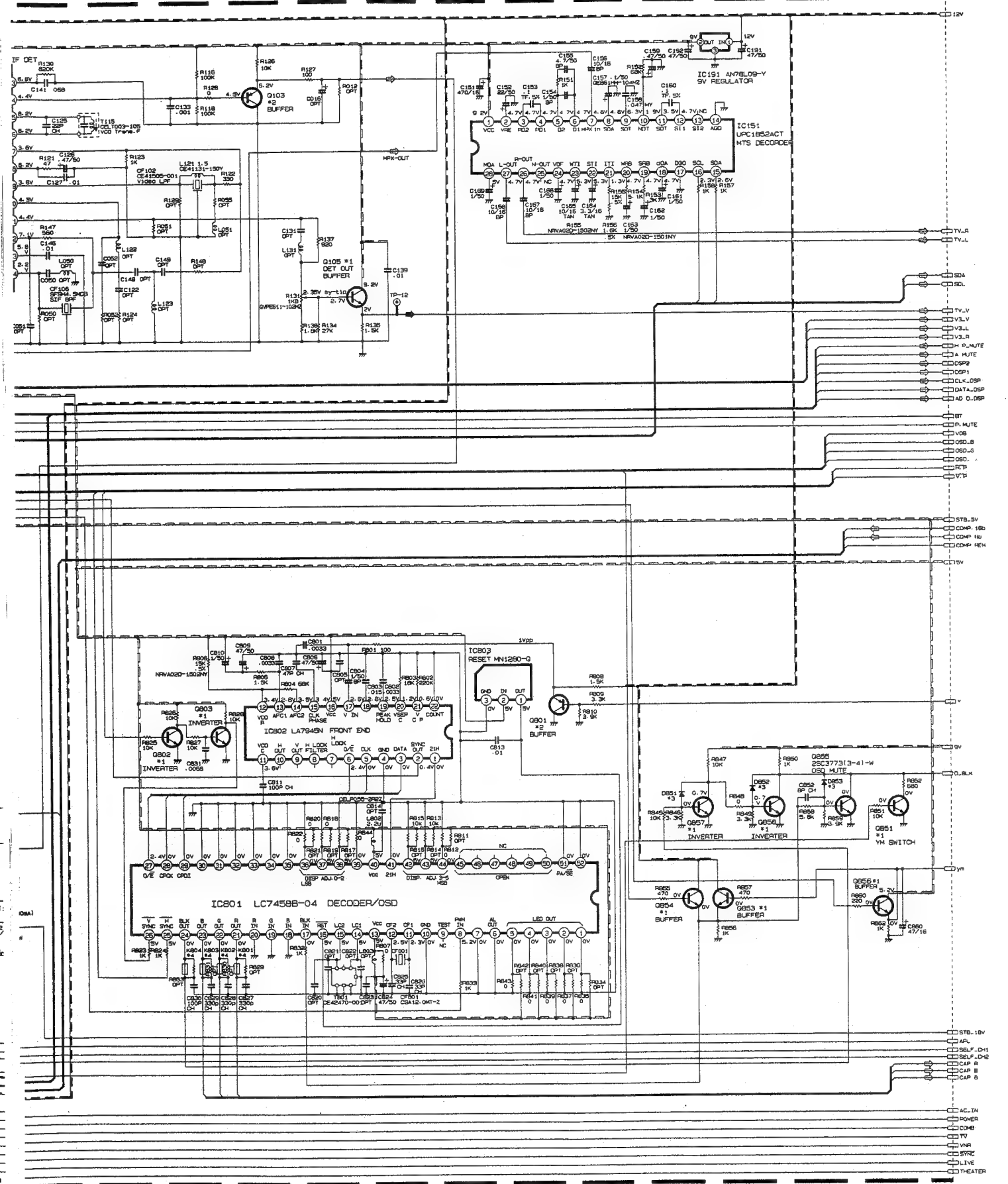


Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58.



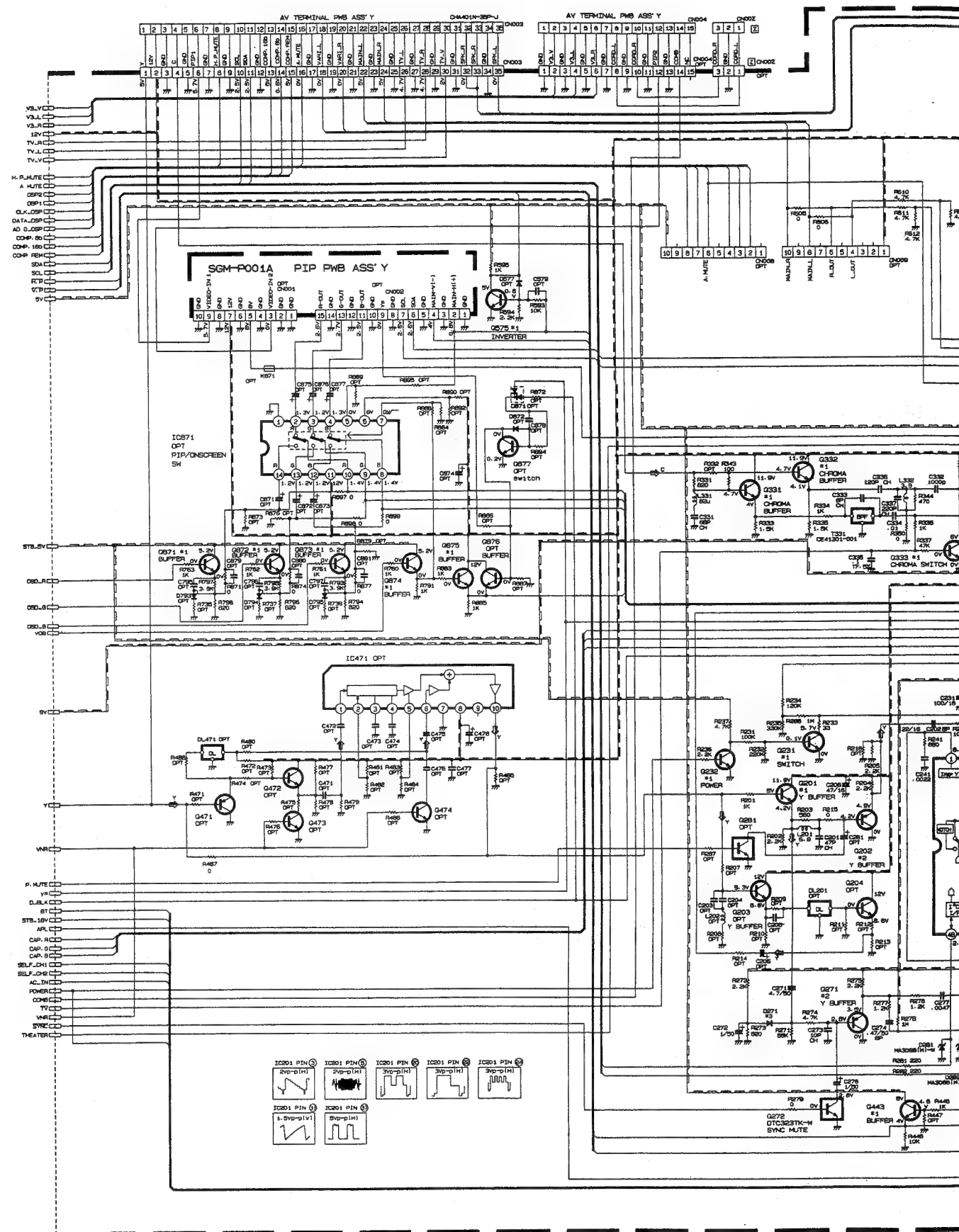


Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58, CONTROL PWB PATTERN page 3-73~3-74.

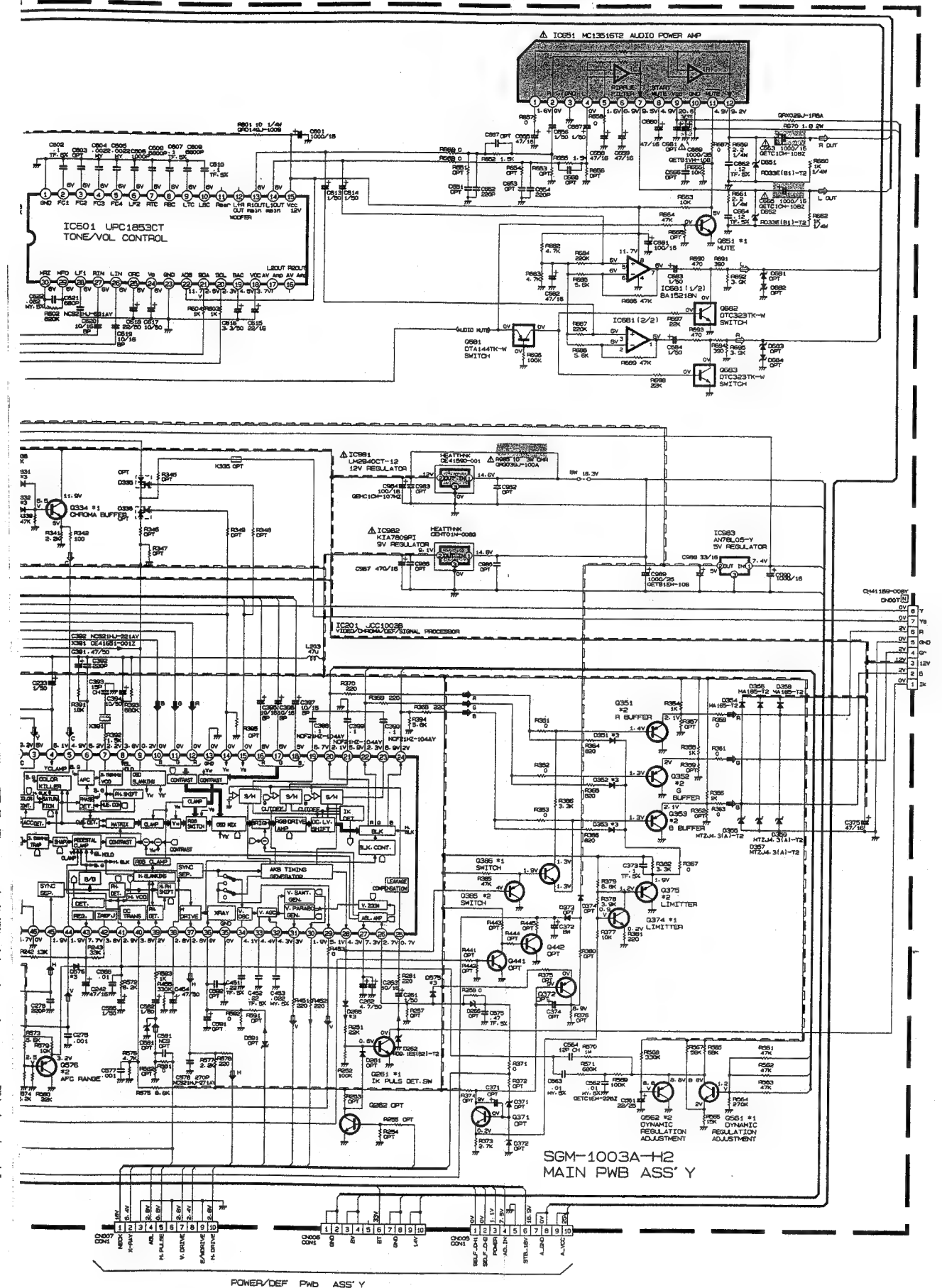


Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58.

## MAIN PWB CIRCUIT DIAGRAM (AV-31BM5)



(No.50850) 3-35



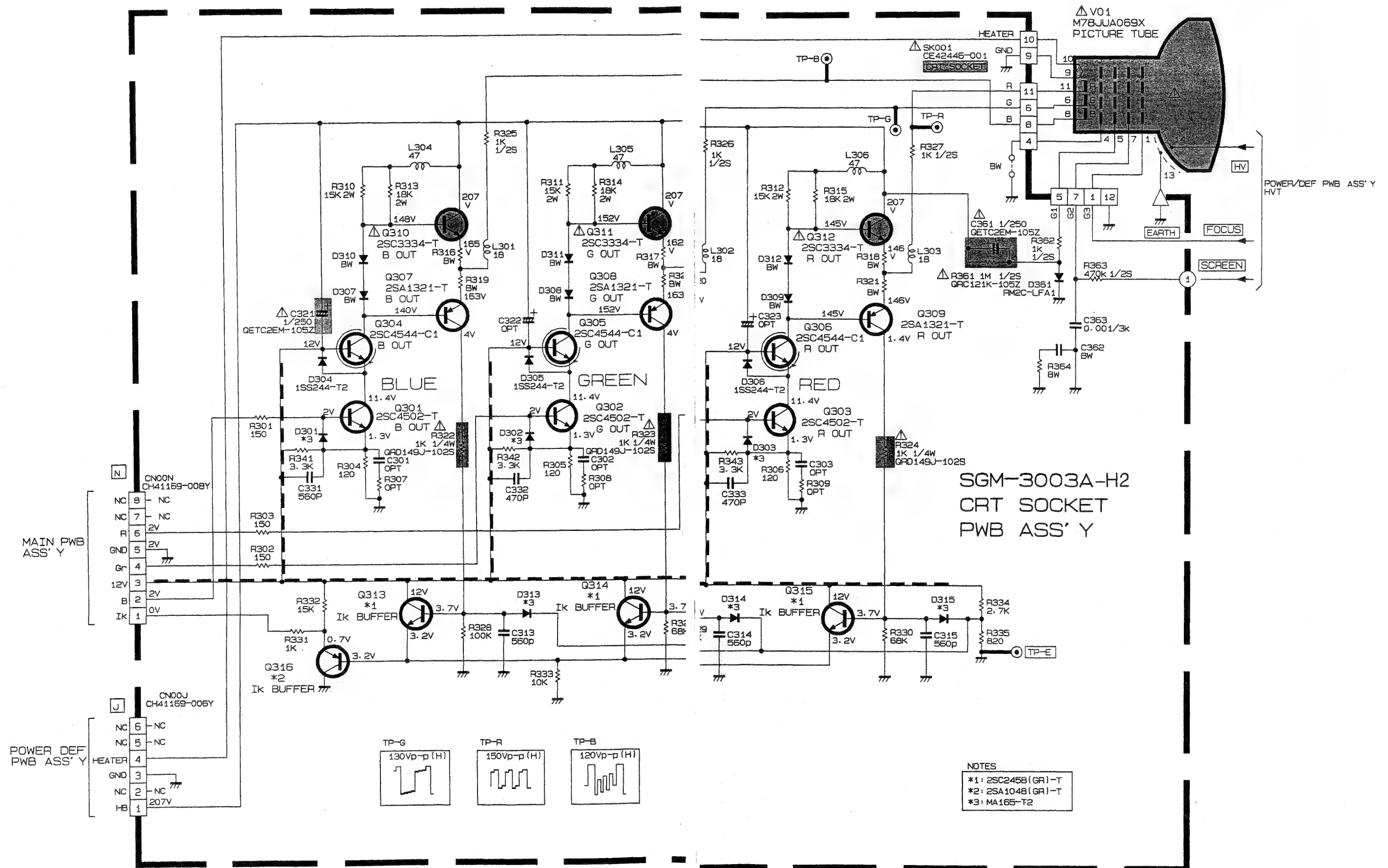
3-36 (No.50850)

AV-31BP5  
AV-31BM5

AV-31BP5  
AV-31BM5

CRT SOCKET PWB CIRCUIT DIAGRAM (AV-31BP5/AV-31BM5)

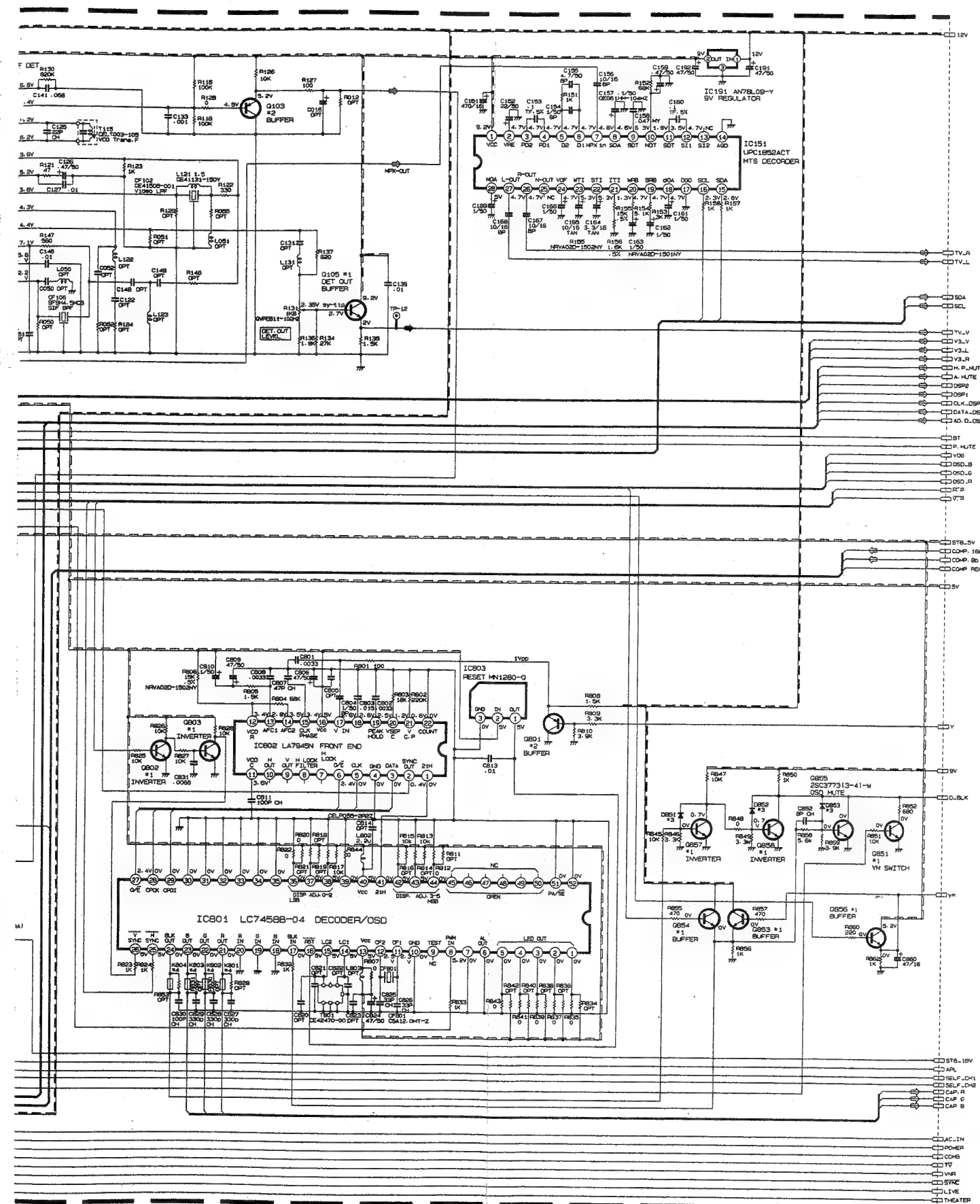
Refer to the following PWB pattern : CRT SOCKET PWB PATTERN page 3-55~3-56.



(No.50850) 3-37

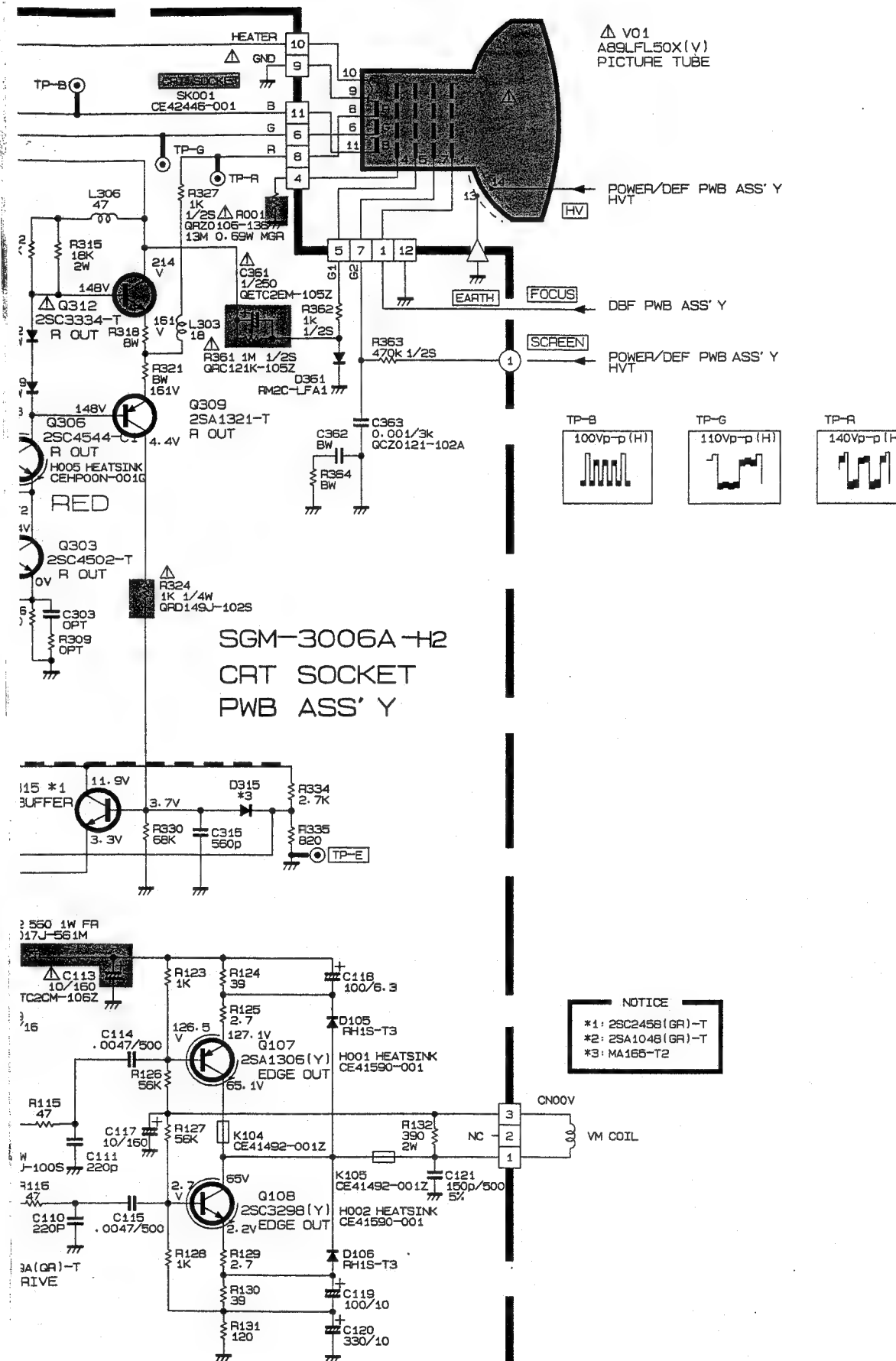
3-38 (No.50850)

Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58, CONTROL PWB PATTERN page 3-73~3-74.



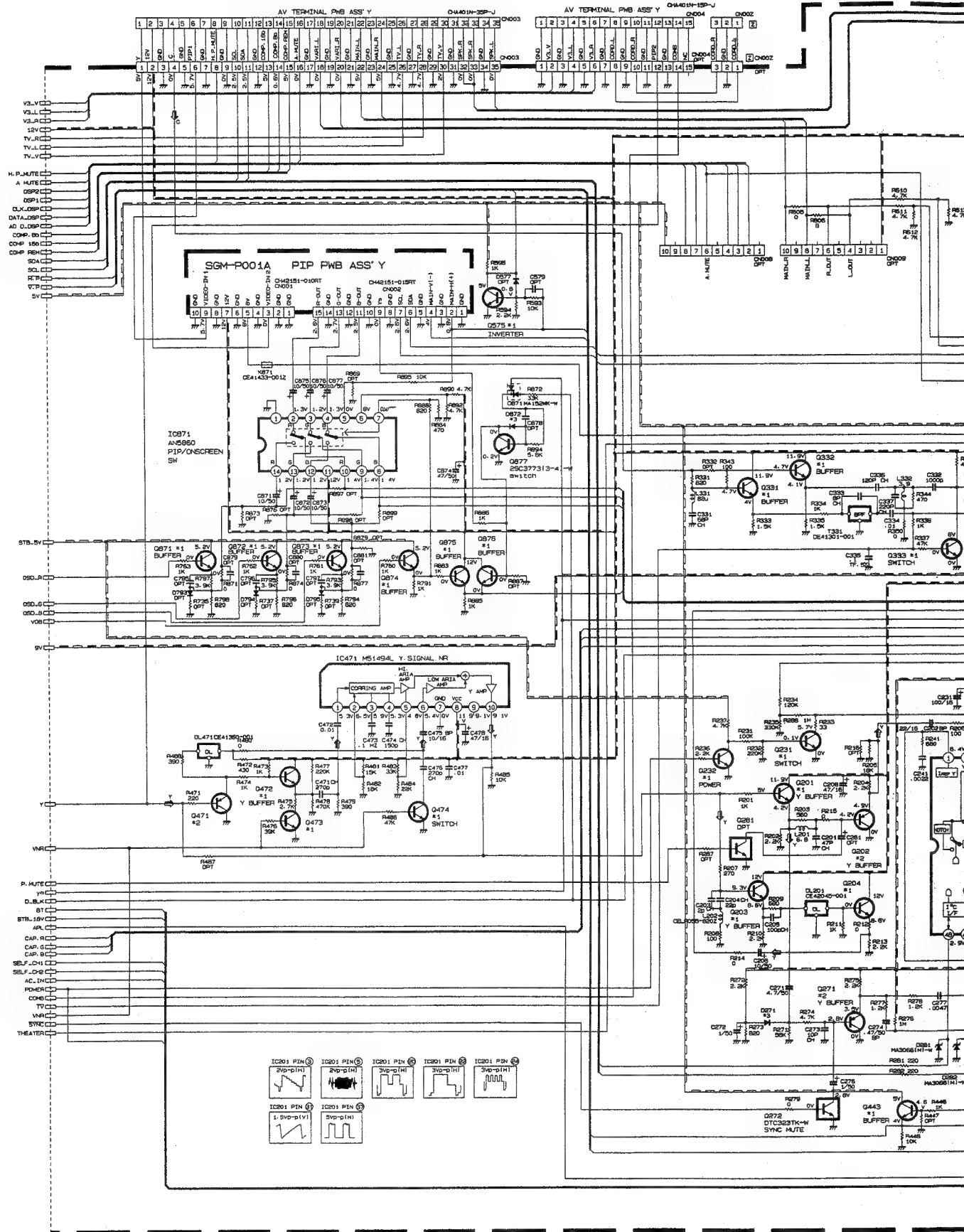


Refer to the following PWB pattern. : CRT SOCKET PWB PATTERN page 3-63~3-64.



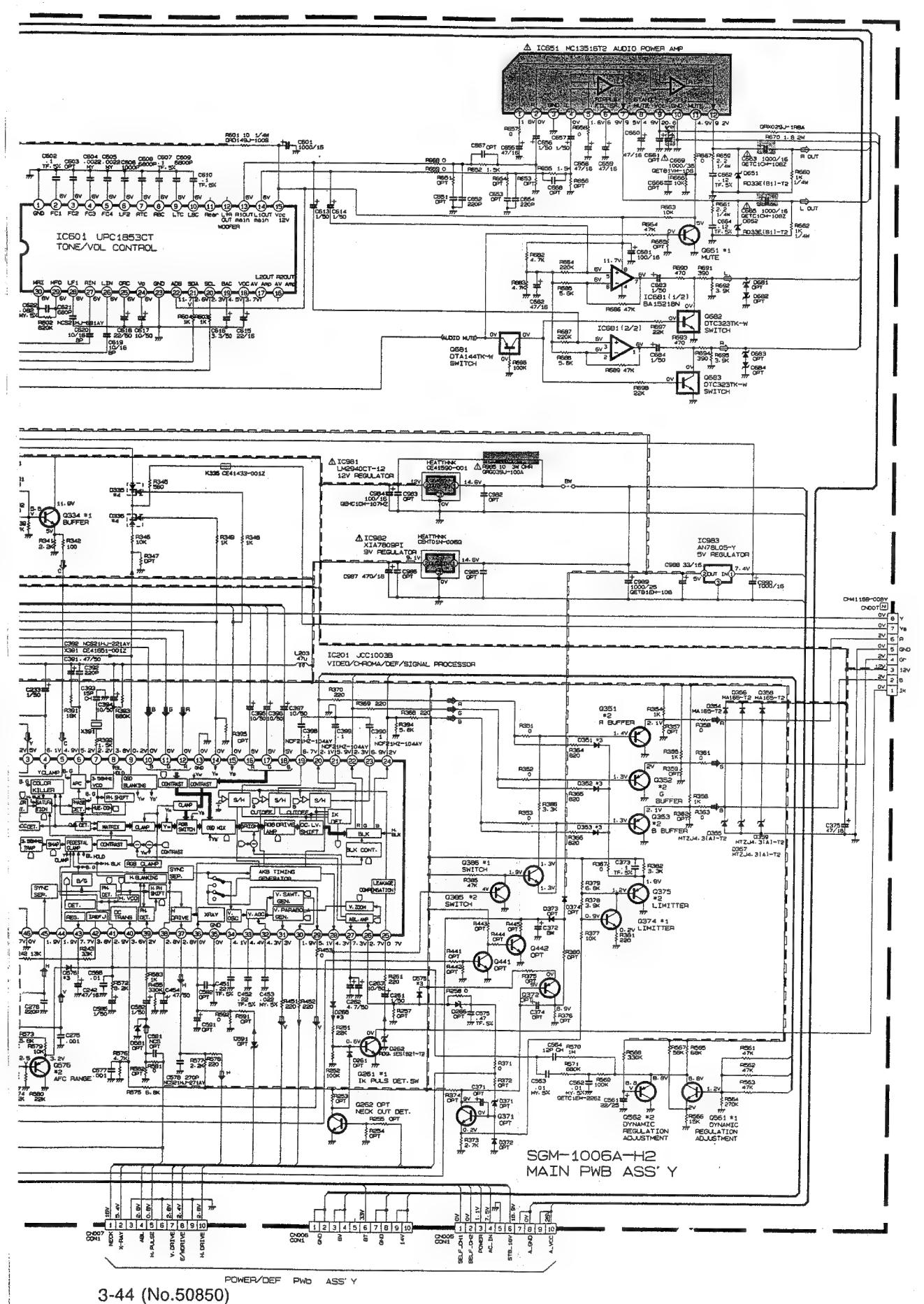
3-40 (No.50850)

### MAIN PWB CIRCUIT DIAGRAM (AV-35BP5)



(No.50850) 3-43

Refer to the following PWB pattern. : MAIN PWB PATTERN page 3-57~3-58.



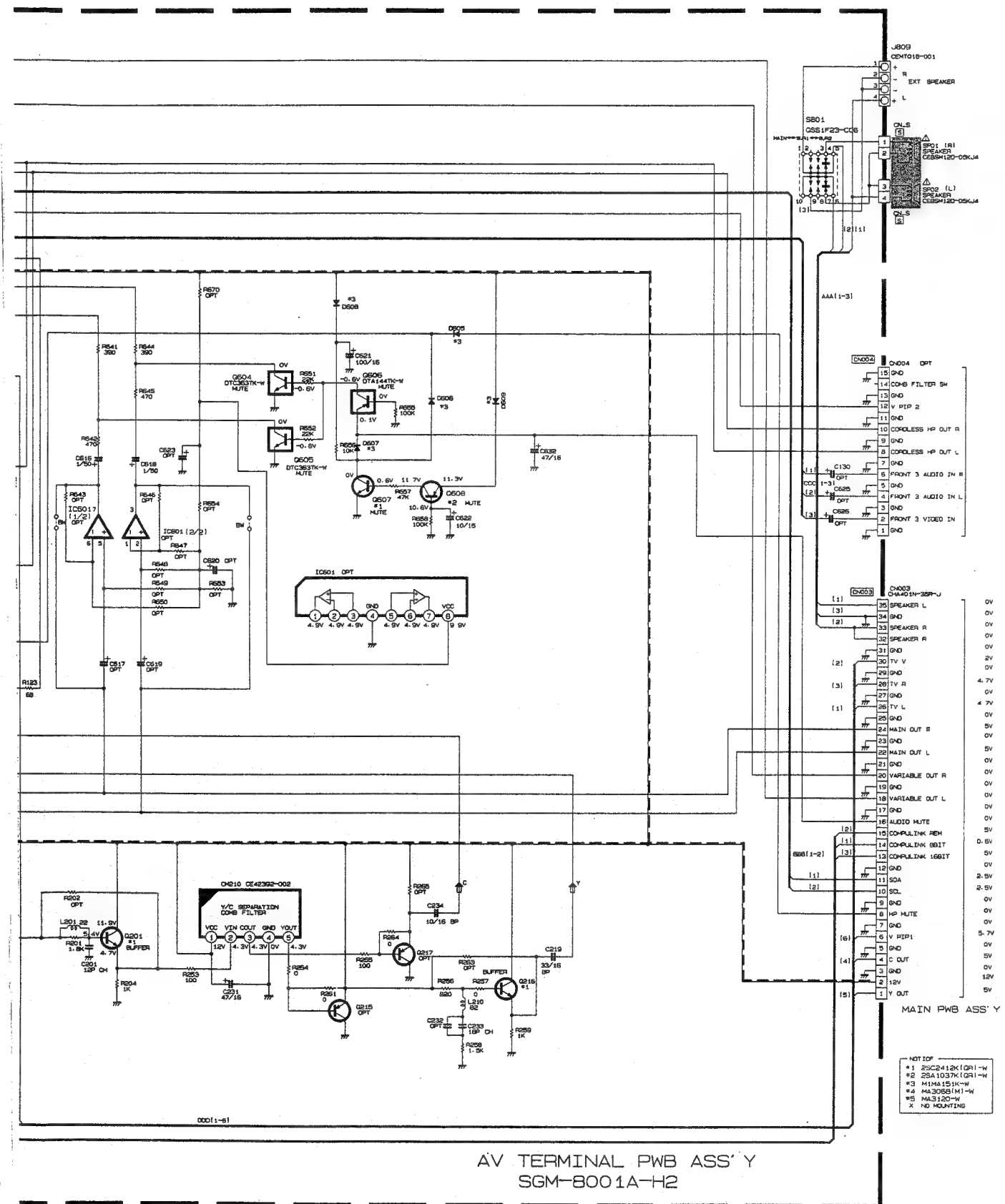
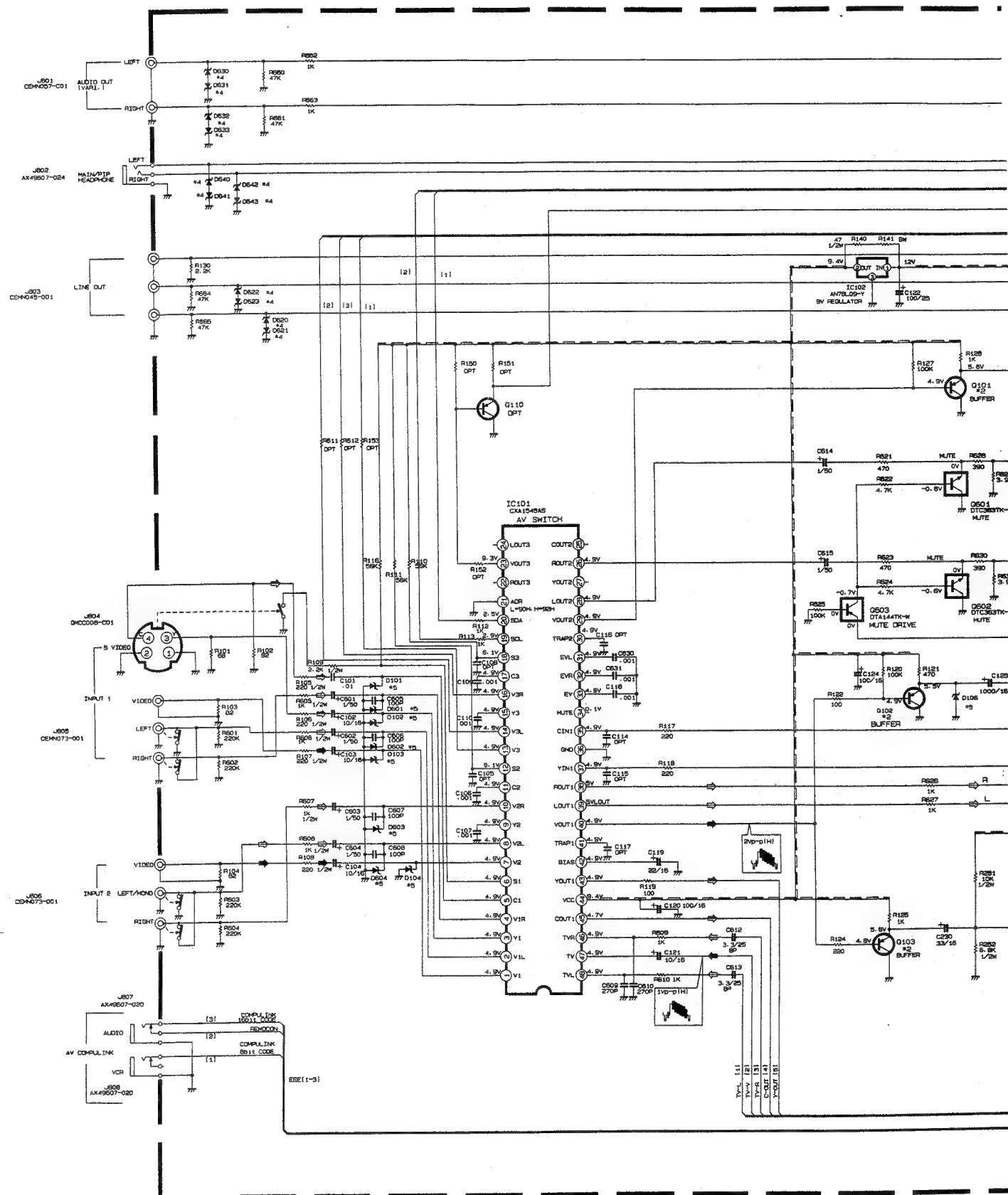
3-44 (No.50850)

AV-27BP5  
AV-31BP5

AV-27BP5  
AV-31BP5

# AV TERMINAL PWB CIRCUIT DIAGRAM (AV-27BP5/AV-31BP5)

Refer to the following PWB pattern : AV TERMINAL PWB PATTERN page 3-65~3-66.



(No.50850) 3-45

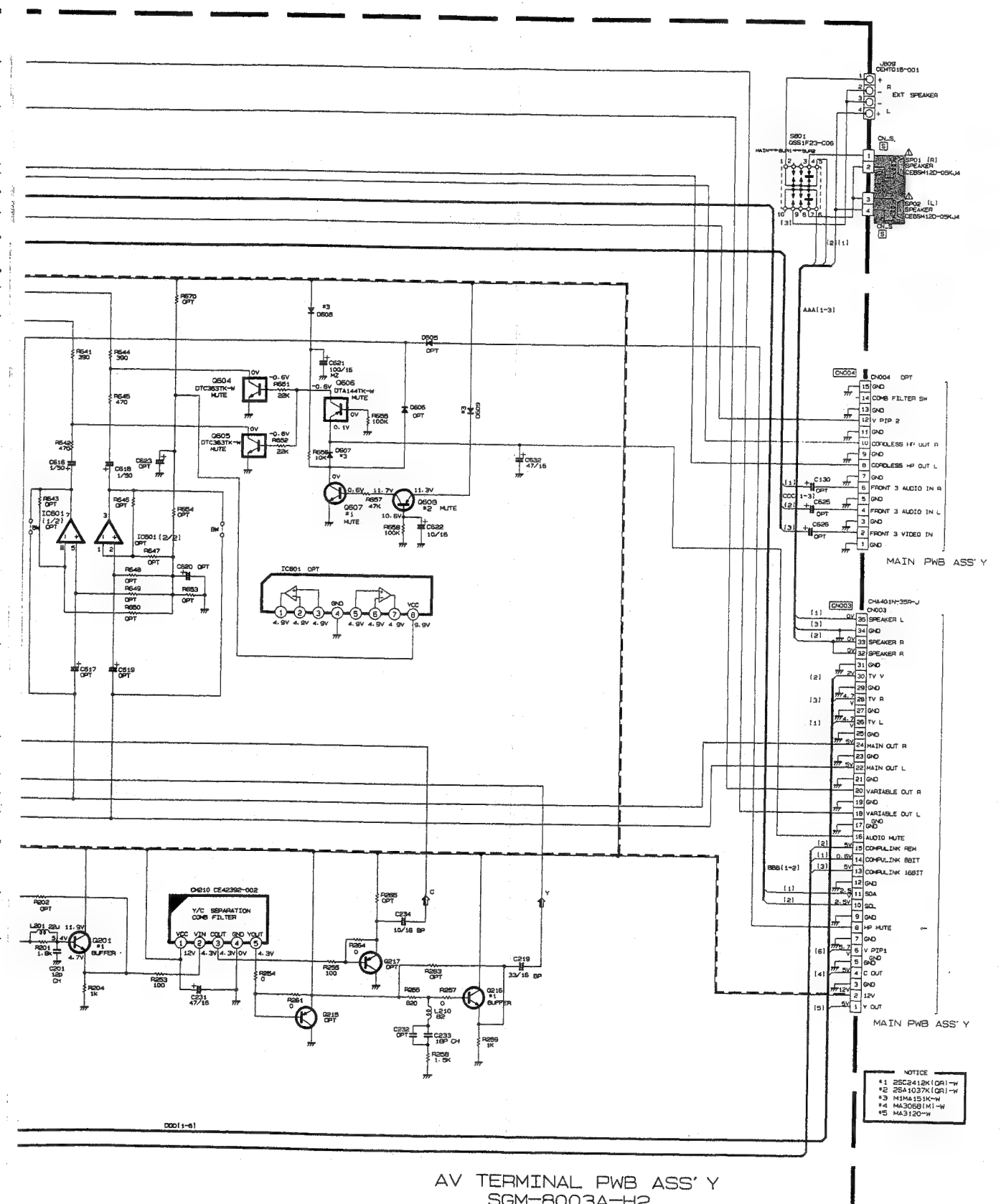
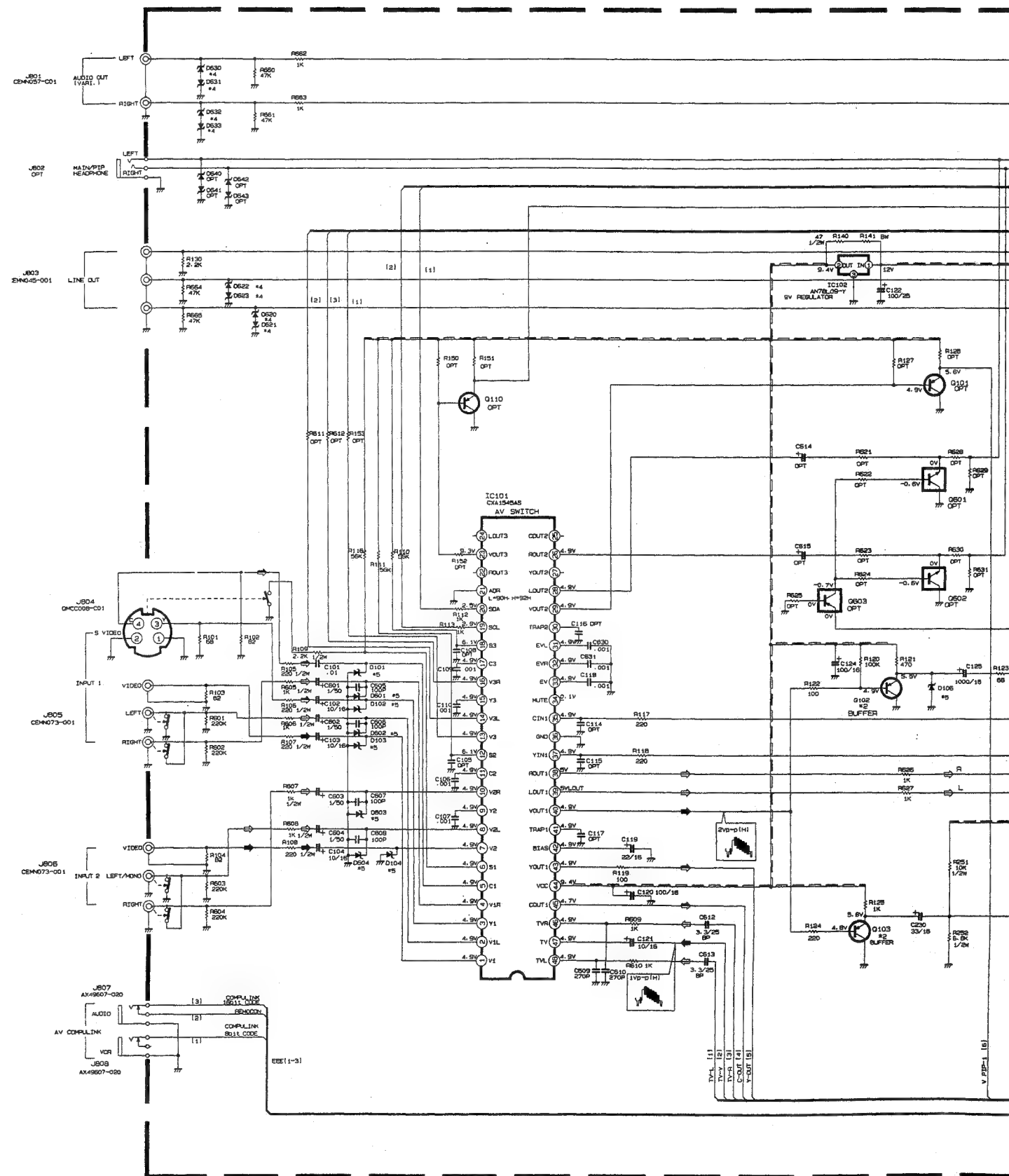
3-46 (No.50850)

AV-31BM5

AV-31BM5

# AV TERMINAL PWB CIRCUIT DIAGRAM (AV-31BM5)

Refer to the following PWB pattern. : AV TERMINAL PWB PATTERN page 3-65~3-66.



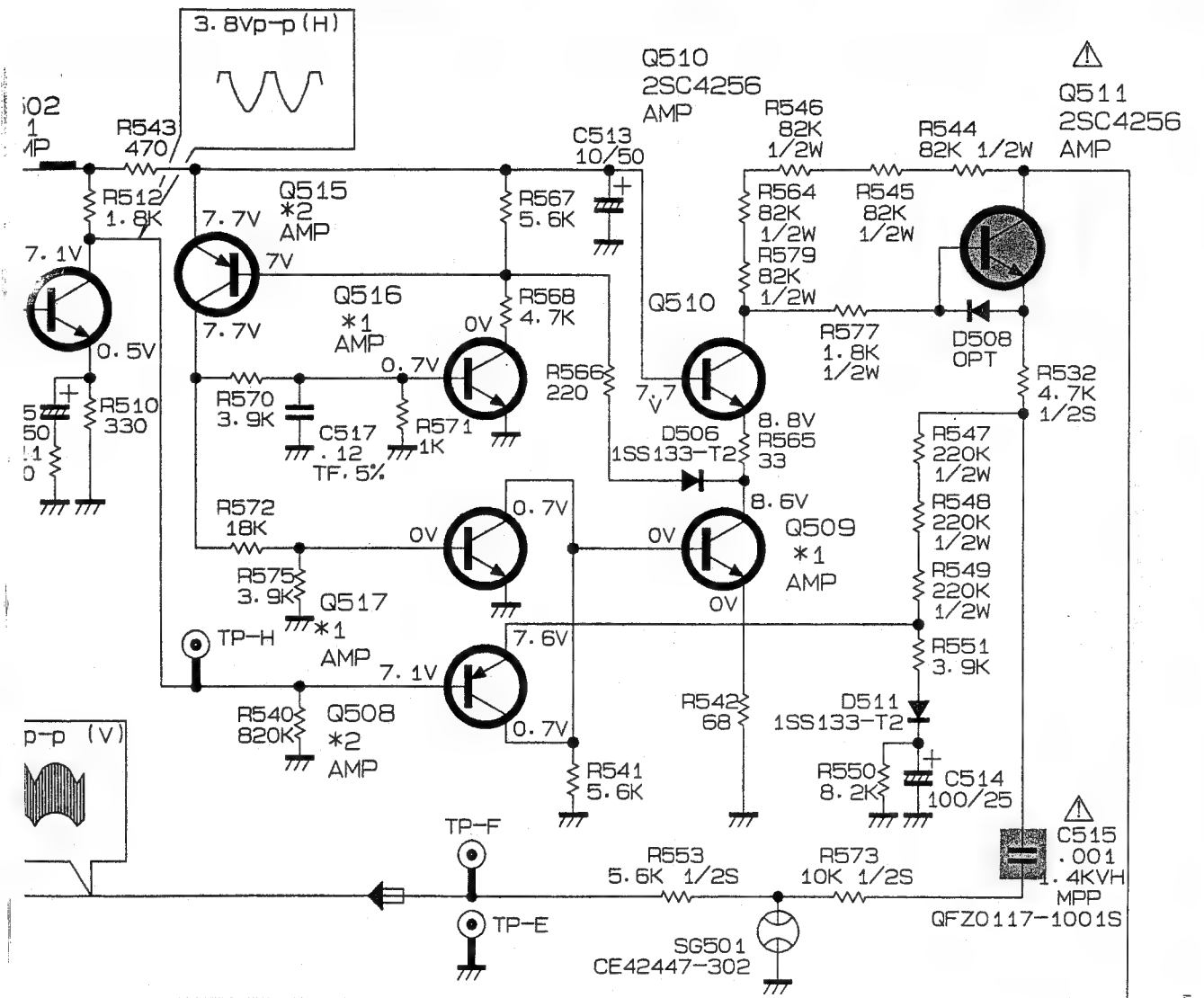
(No.50850) 3-47

3-48 (No.50850)





Refer to the following PWB pattern. : DBF. PWB PATTERN page 3-69~3-70.

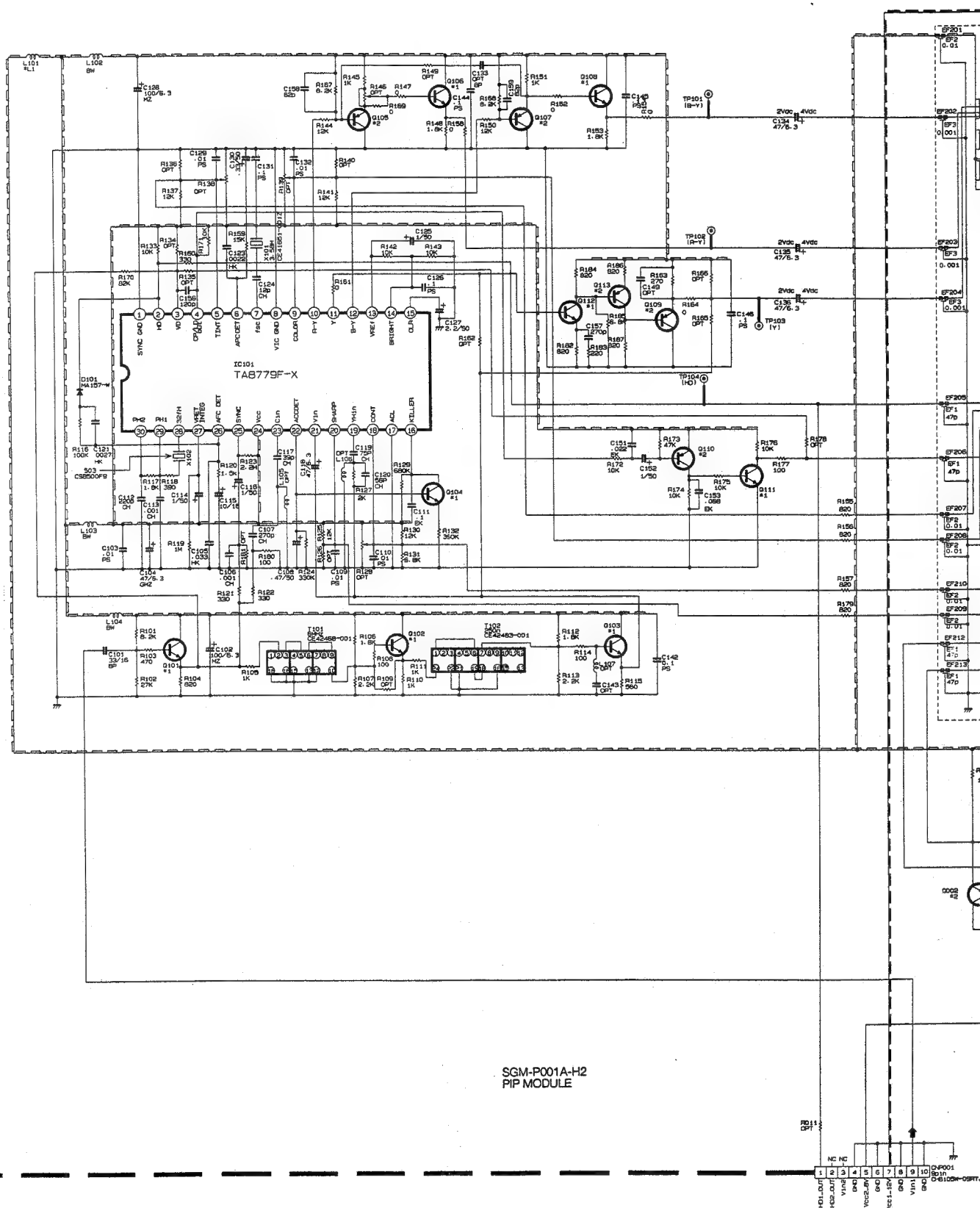


DBF PWB ASS'Y  
SGM-9201A SGM-9201B

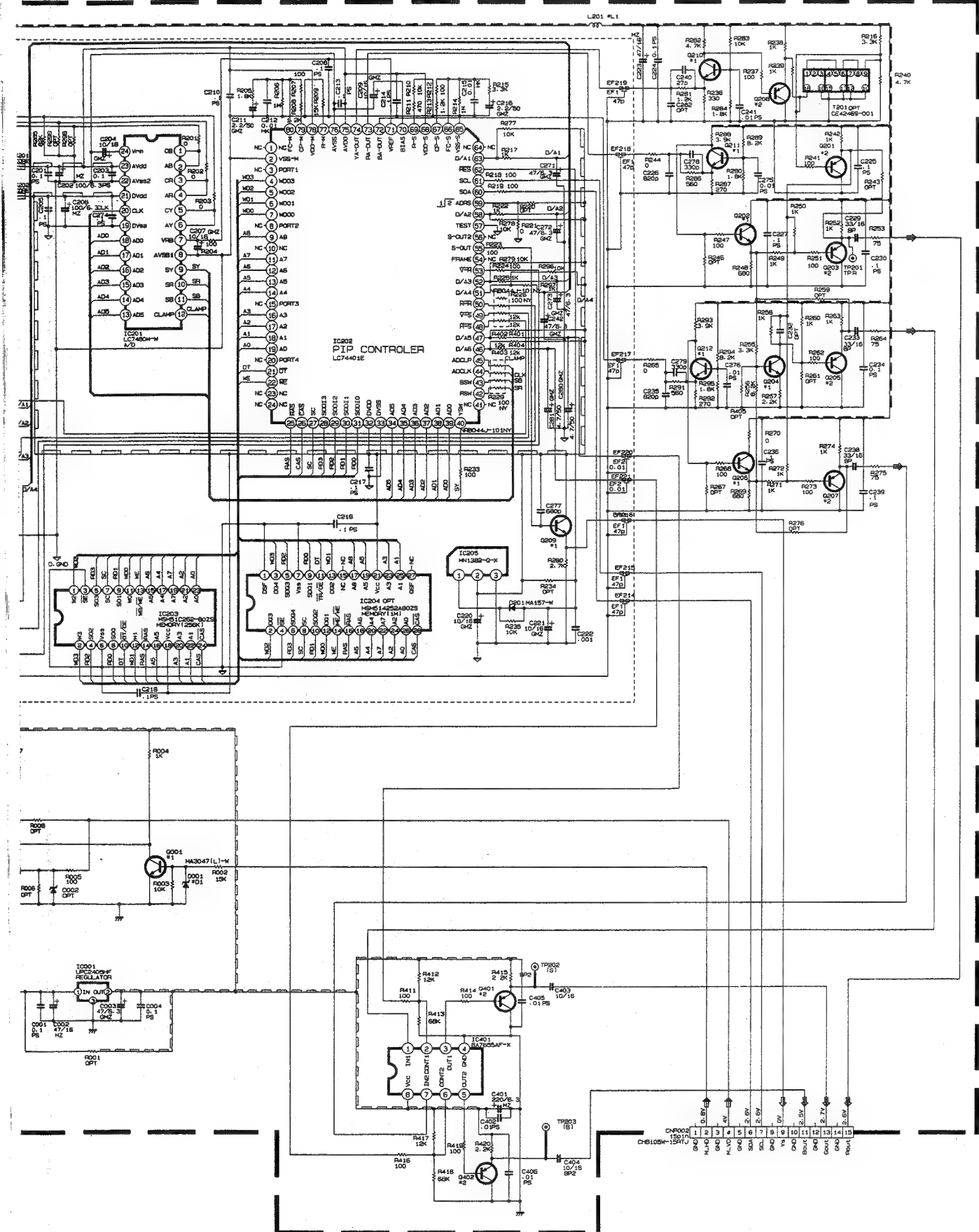
*1	2SC1740S(QR)-T
*2	2SA933S(QR)-T

## PIP MODULE PWB CIRCUIT DIAGRAM (AV-27/31/35BP5)

Refer to the following PWB pattern. : PIP MODULE PWB PATTERN page 3-71~3-72.

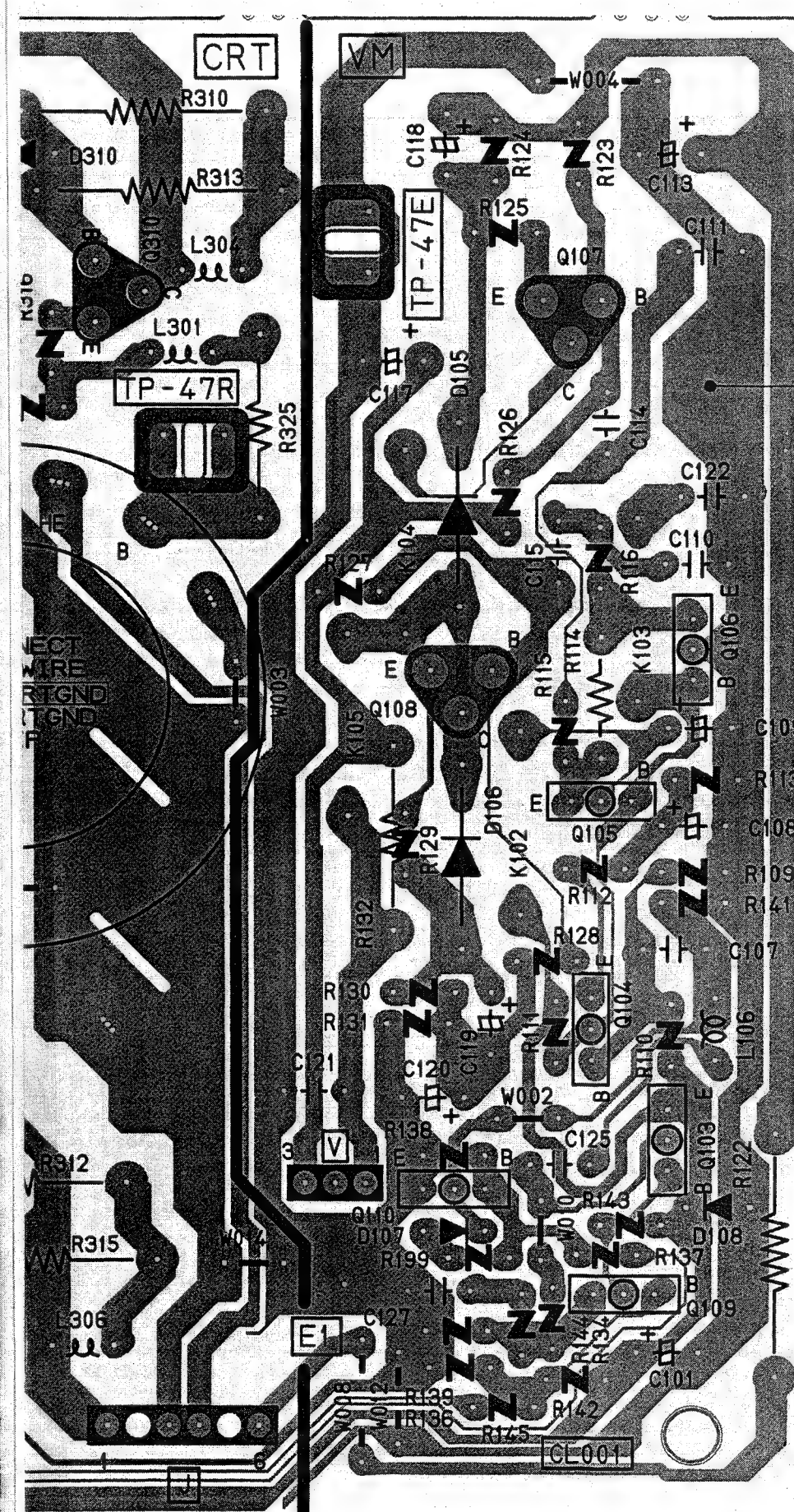


(No.50850) 3-53



3-54 (No.50850)





( $\perp$ )



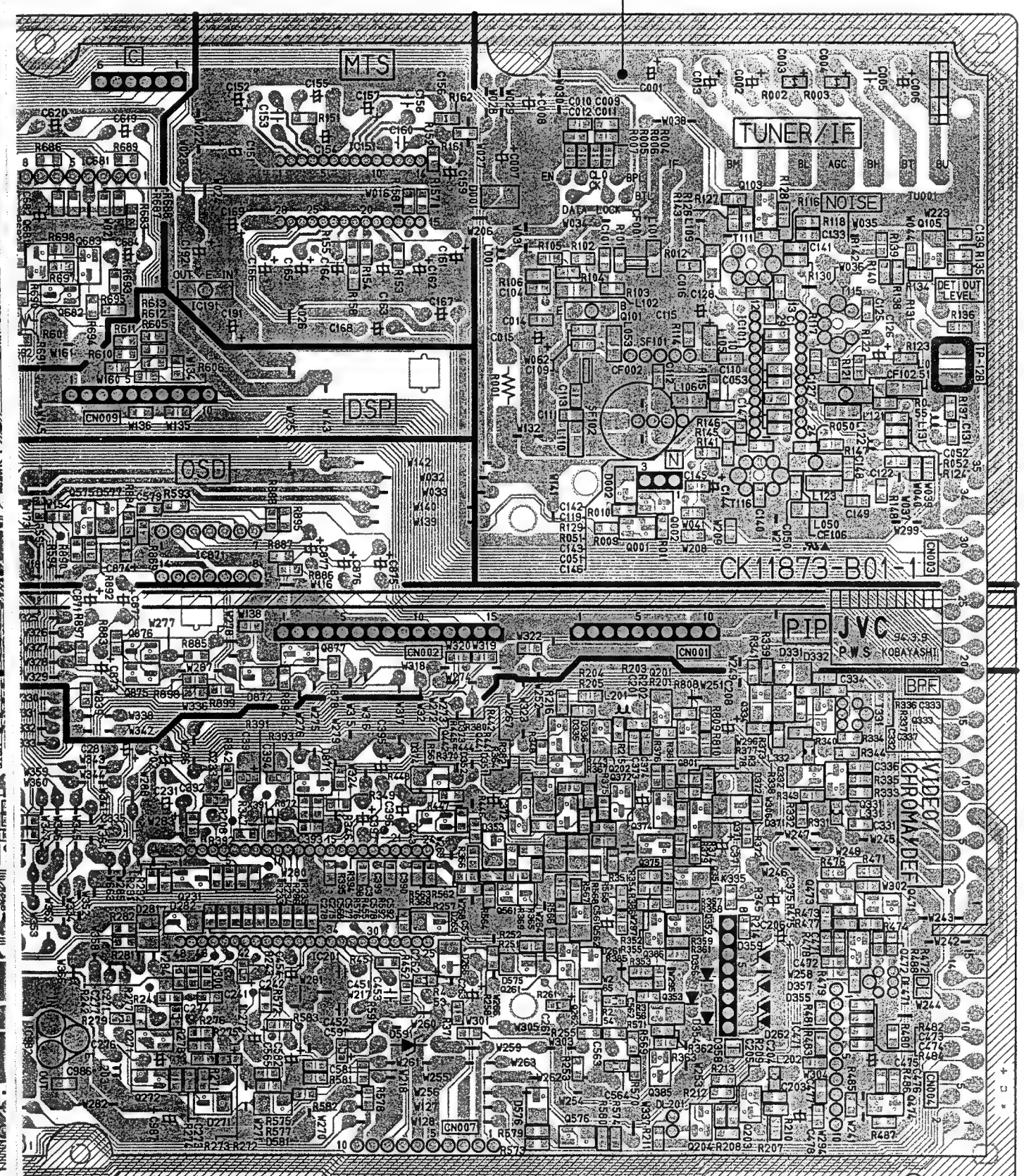
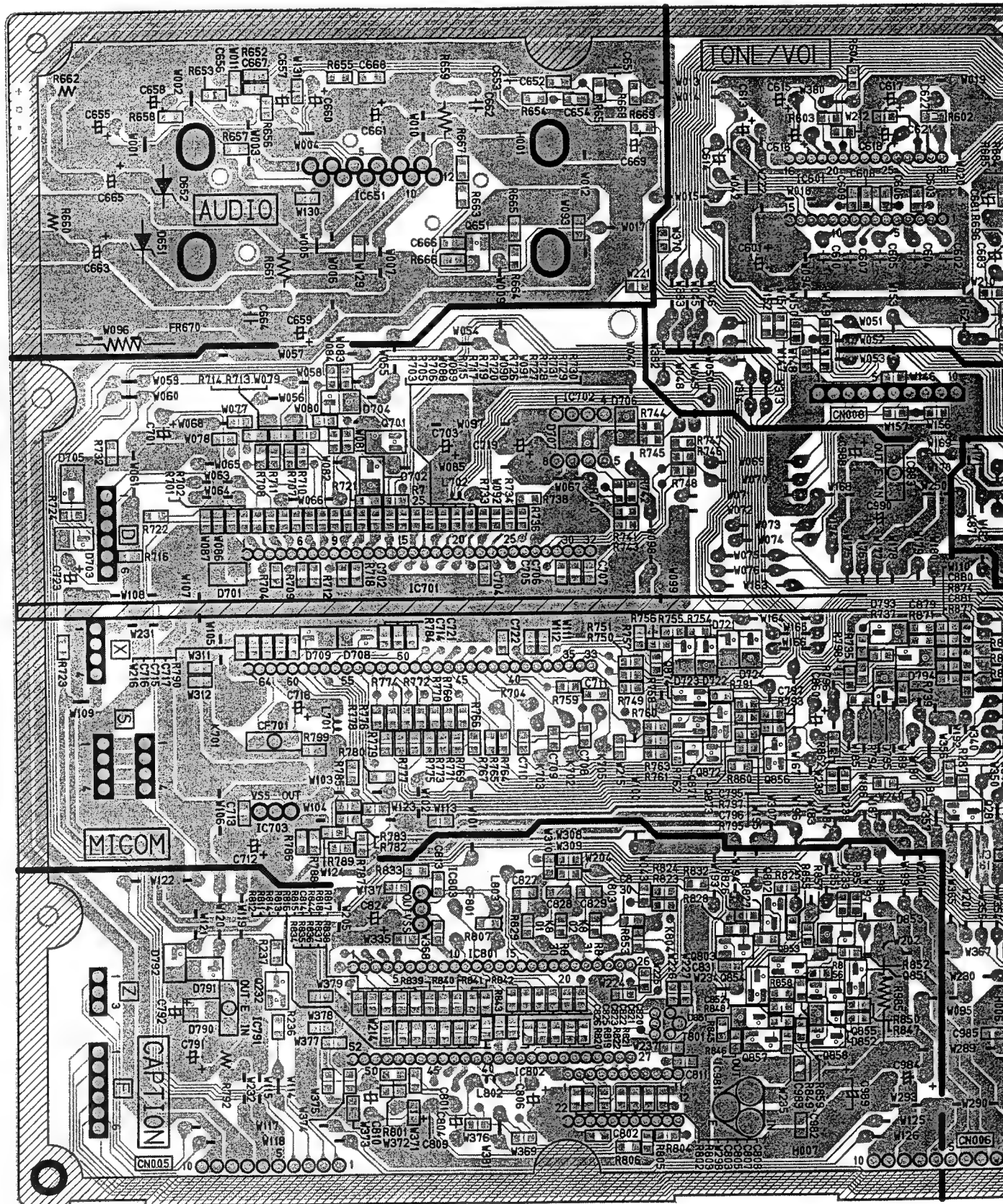
AV-27/31/35BP5  
AV-31BM5

AV-27/31/35BP5  
AV-31BM5

MAIN PWB PATTERN (AV-27/31/35BP5 & AV-31BM5)  
(SGM-1001A-H2 / SGM-1003A-H2 / SGM-1004A-H2 / SGM-1006A-H2)

(Magnification Rate 114%)

FRONT ←



(No.50850) 3-57

3-58 (No.50850)



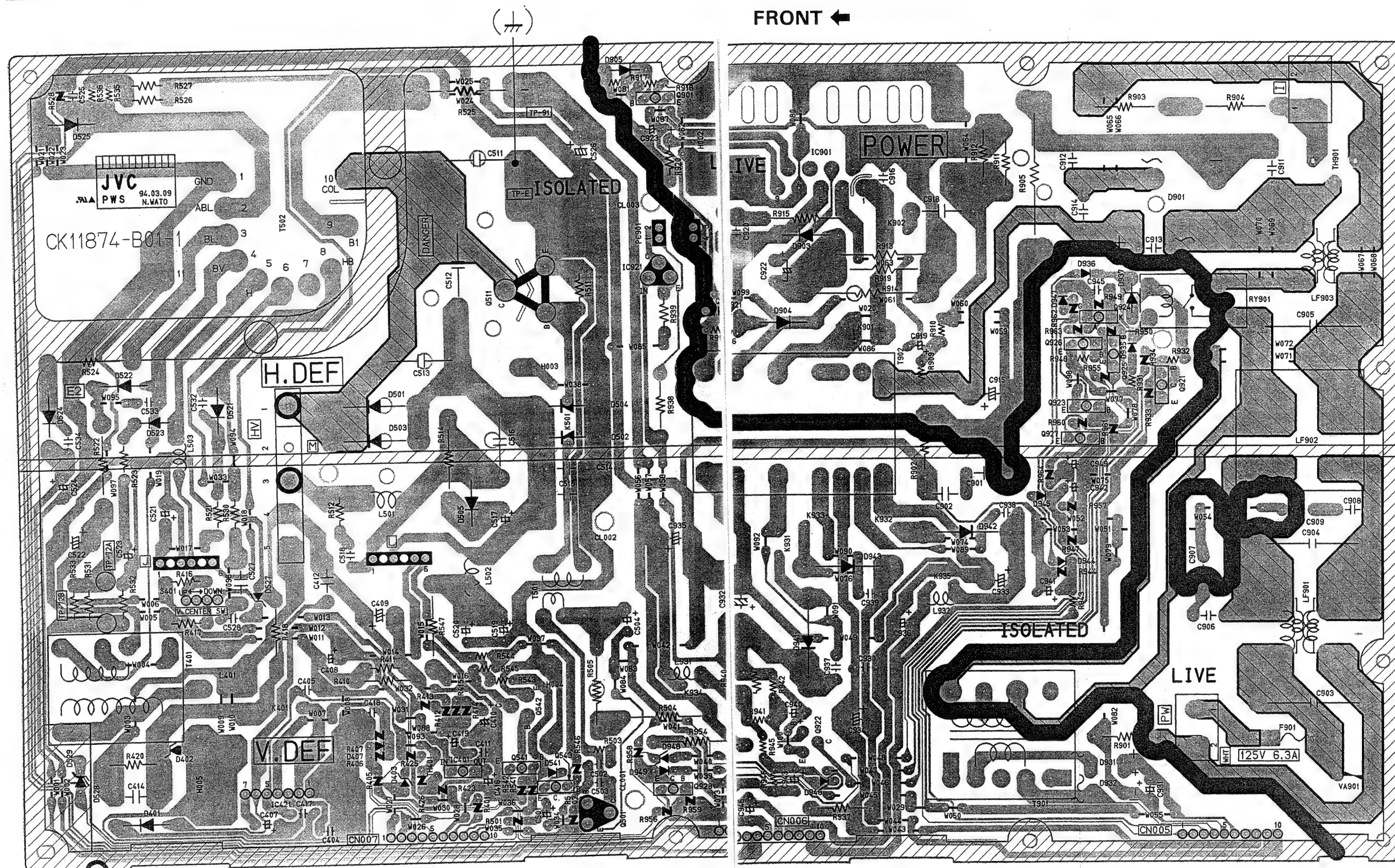
AV-27/31/35BP5  
AV-31BM5

AV-27/31/35BP5  
AV-31BM5

POWER / DEF. PWB PATTERN (AV-27/31BP5 & AV-31BM5)  
(SGM-2001A-H2 / SGM-2501A-H2 / SGM-2004A-H2 / SGM-2504A-H2 / SGM-2003A-H2 / SGM-2503A-H2)

(Magnification Rate 114 %)

FRONT ←



(No.50850) 3-59

3-60 (No.50850)



AV-35BP5

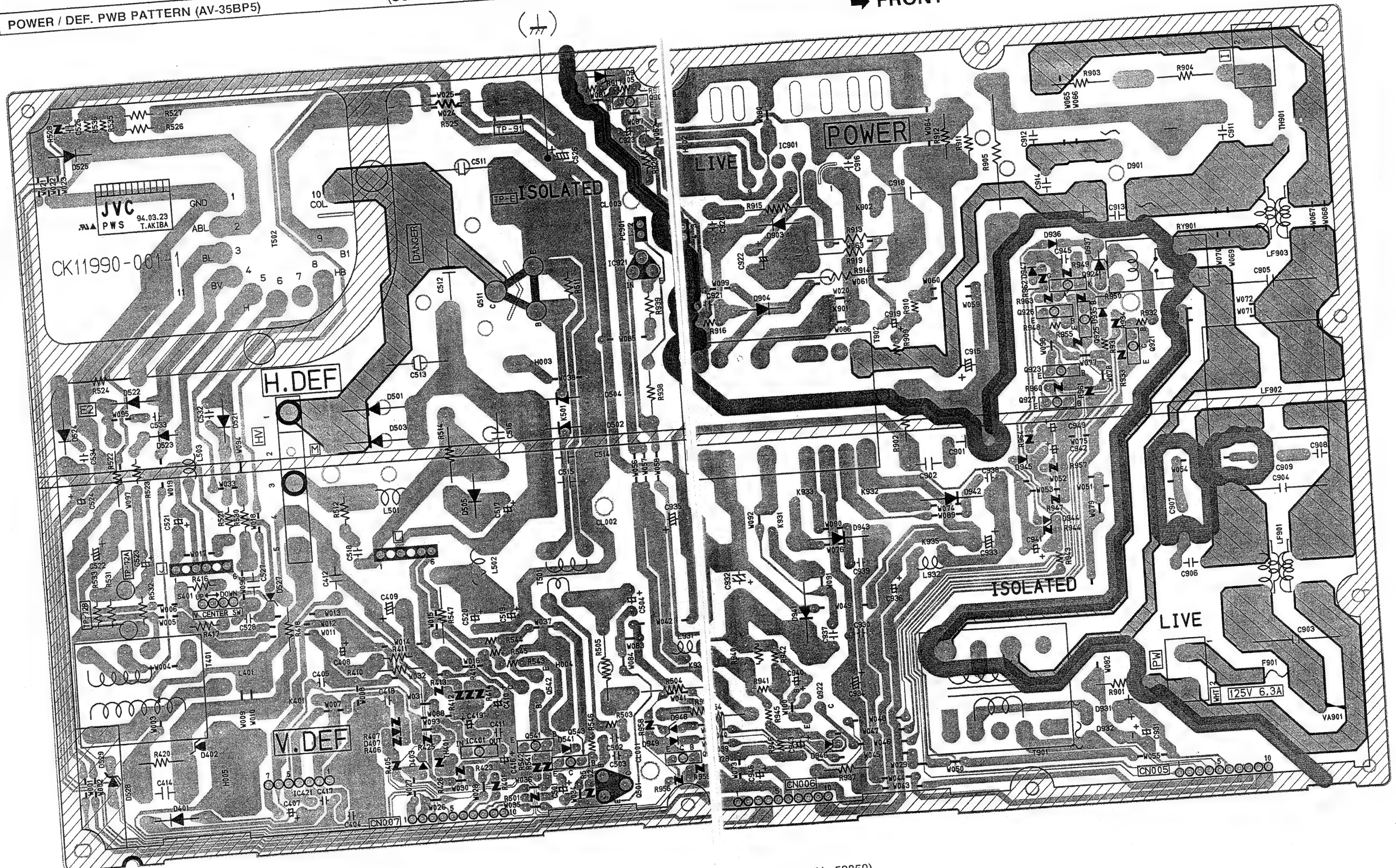
AV-35BP5

(Magnification Rate 114%)

POWER / DEF. PWB PATTERN (AV-35BP5)

(SGM-2006A-H2 / SGM-2506A-H2)

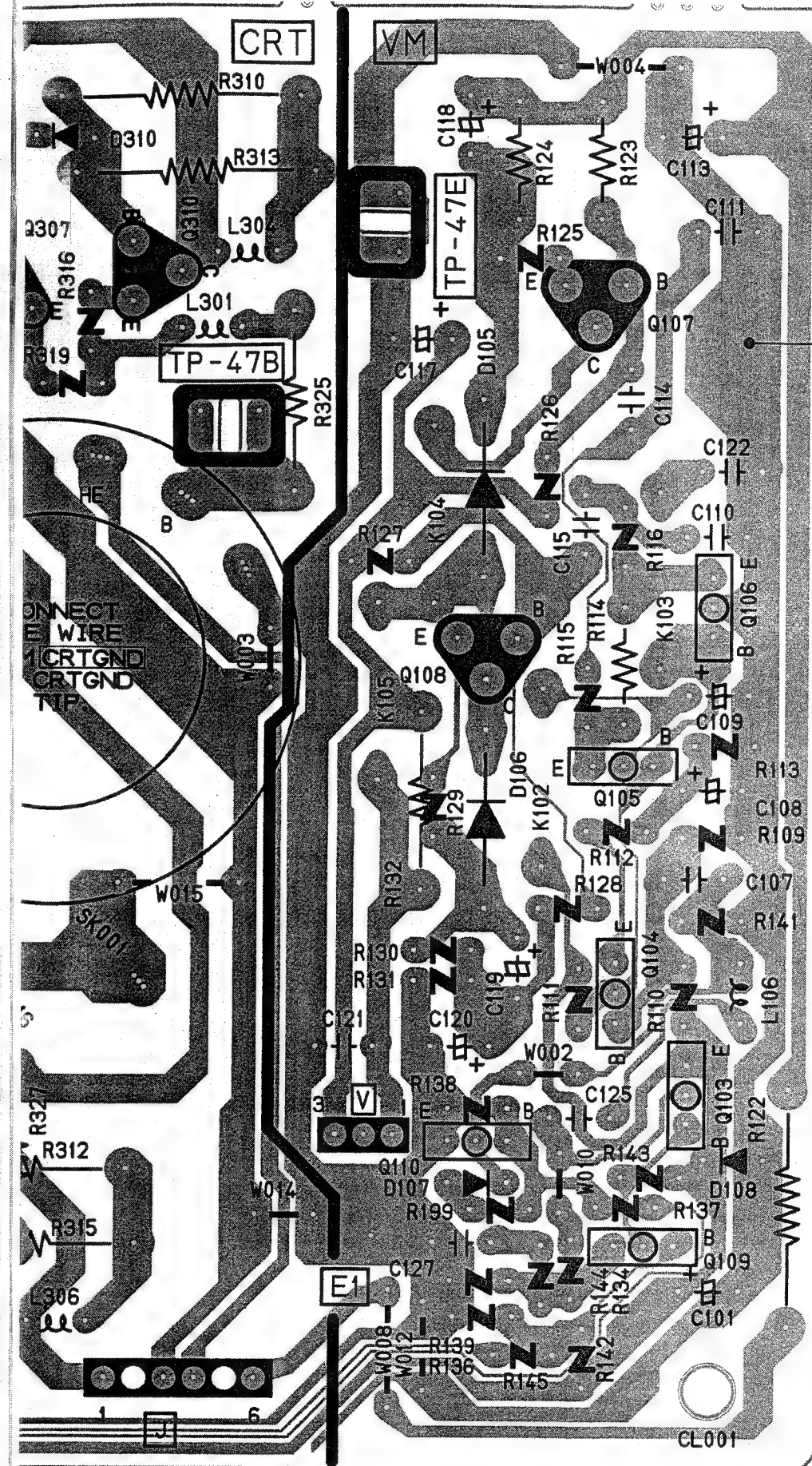
→ FRONT



(No.50850) 3-61

3-62 (No.50850)





(Magnification Rate 200 %)

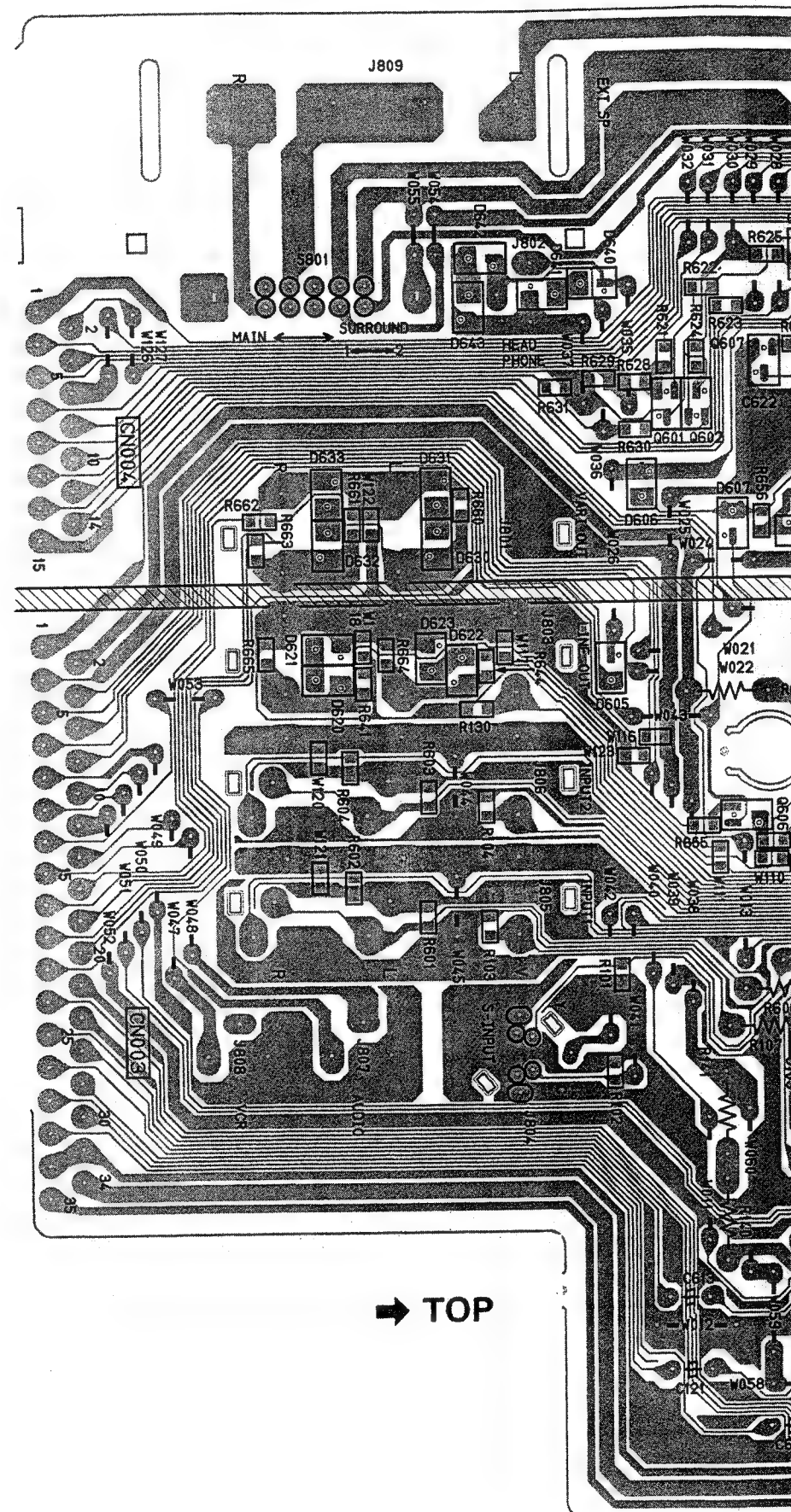
()



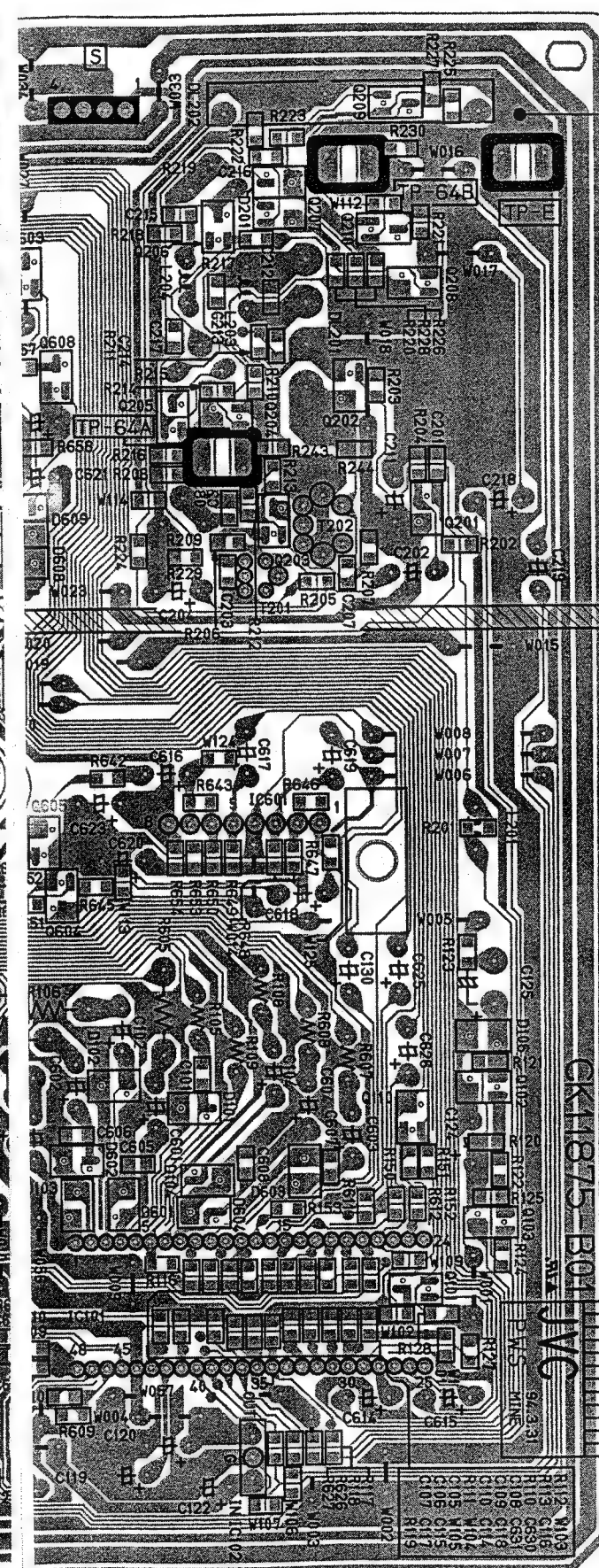


JVC-03494 / DRUCK: 34



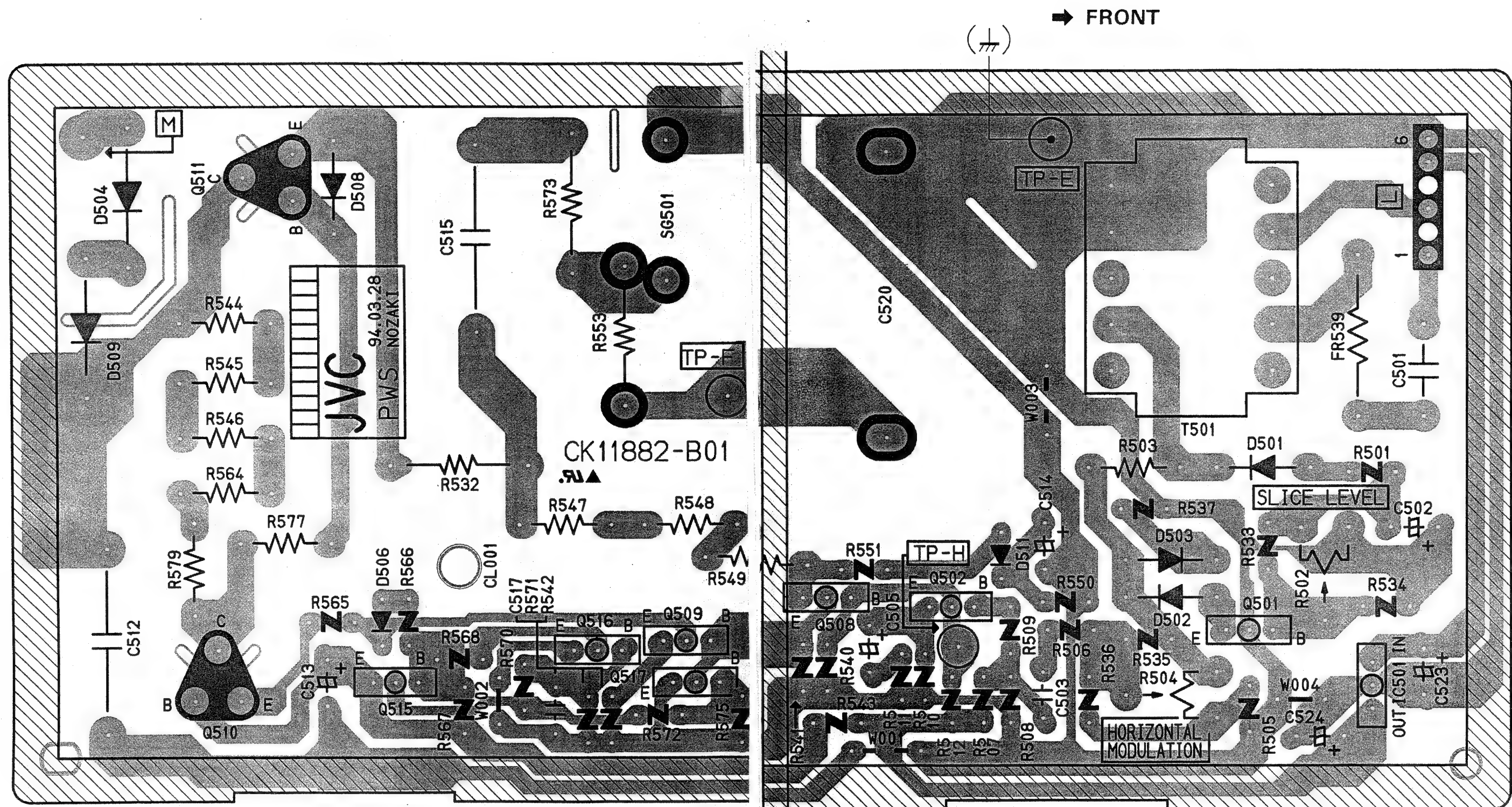


(No.50850) 3-67



3-68 (No.50850)





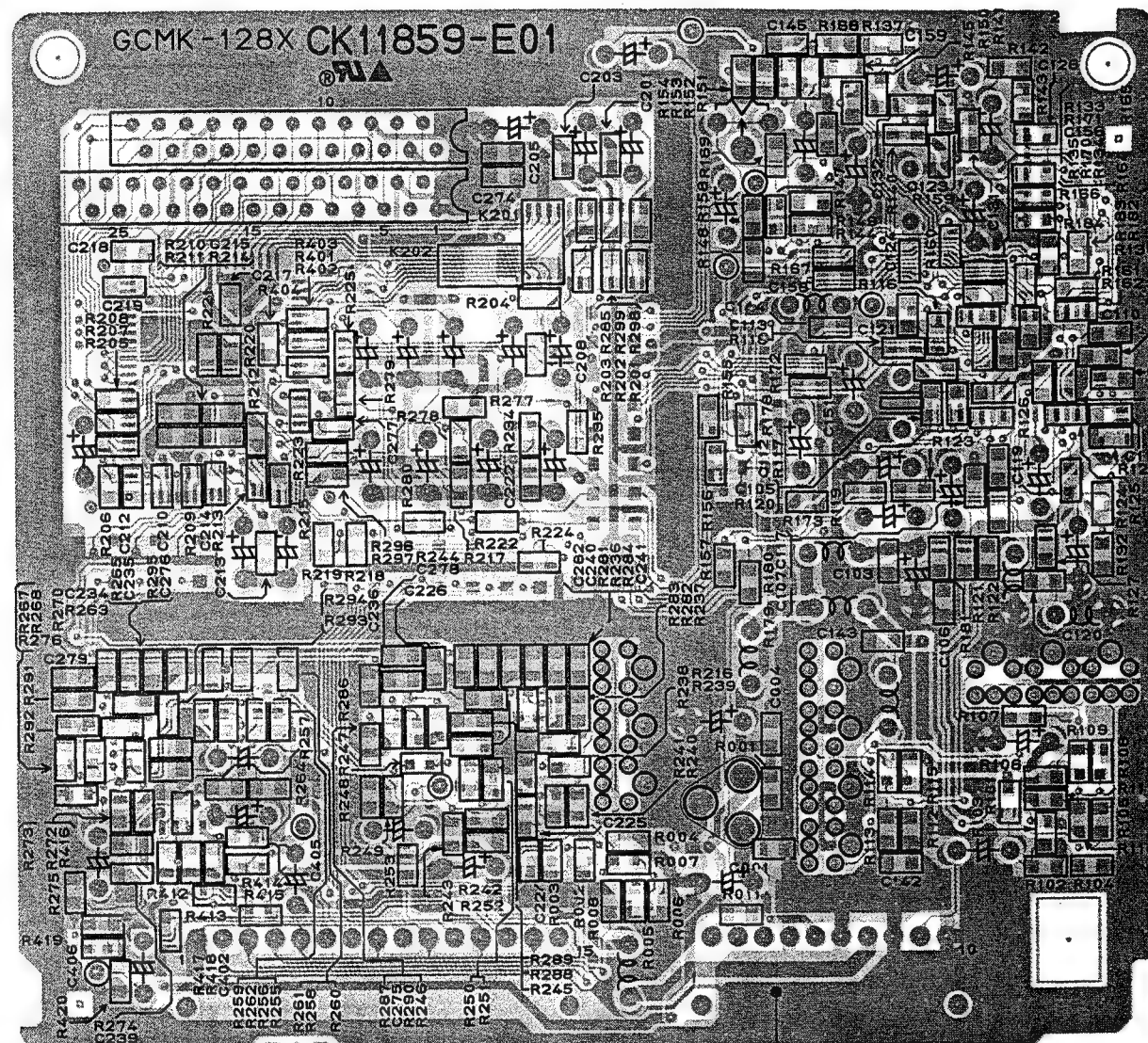


PIP MODULE PWB PATTERN (AV-27/31/35BP5)

(SGM-P001A-H2)

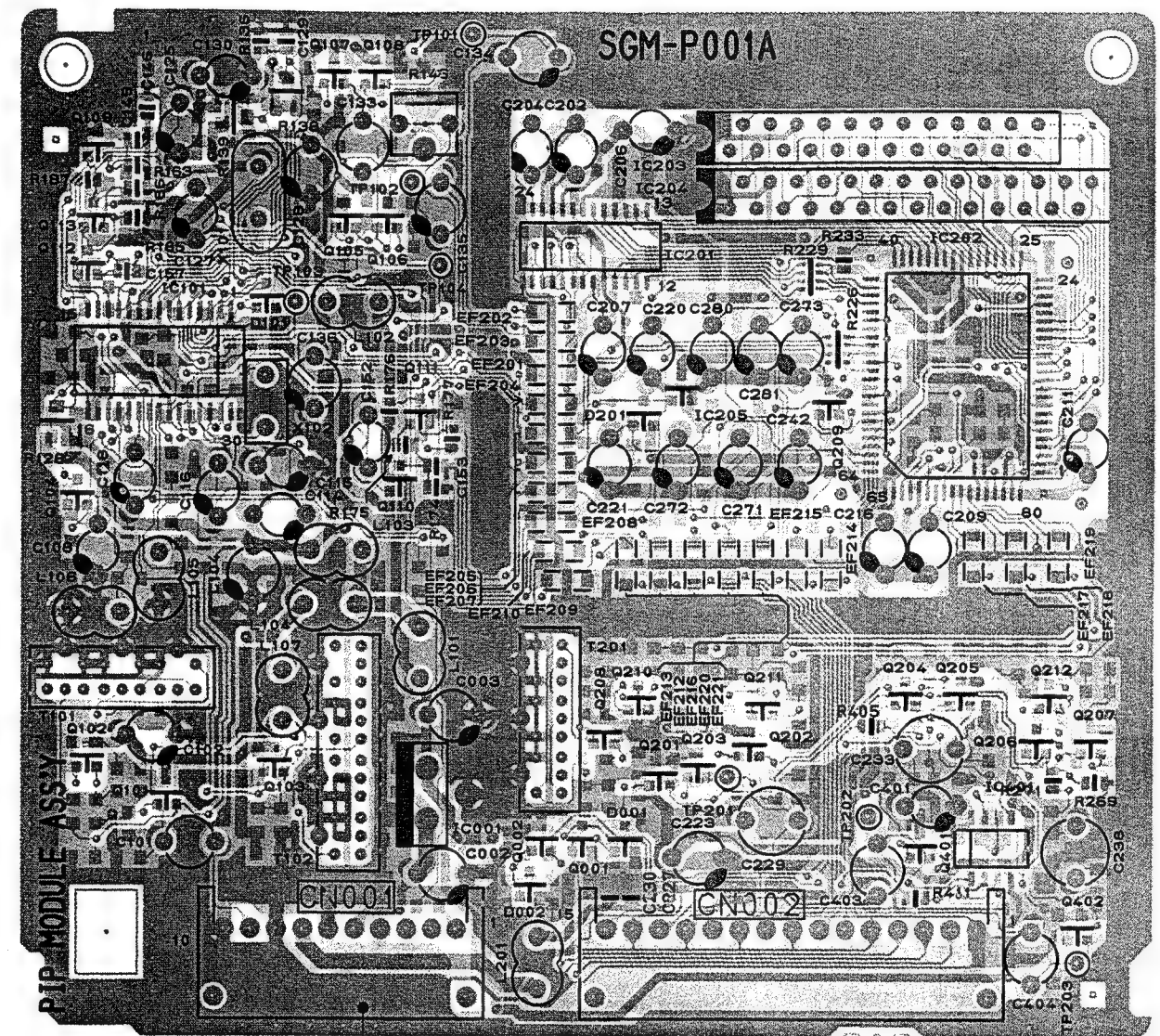
[PARTS SIDE]

(Magnification Rate 150 %)



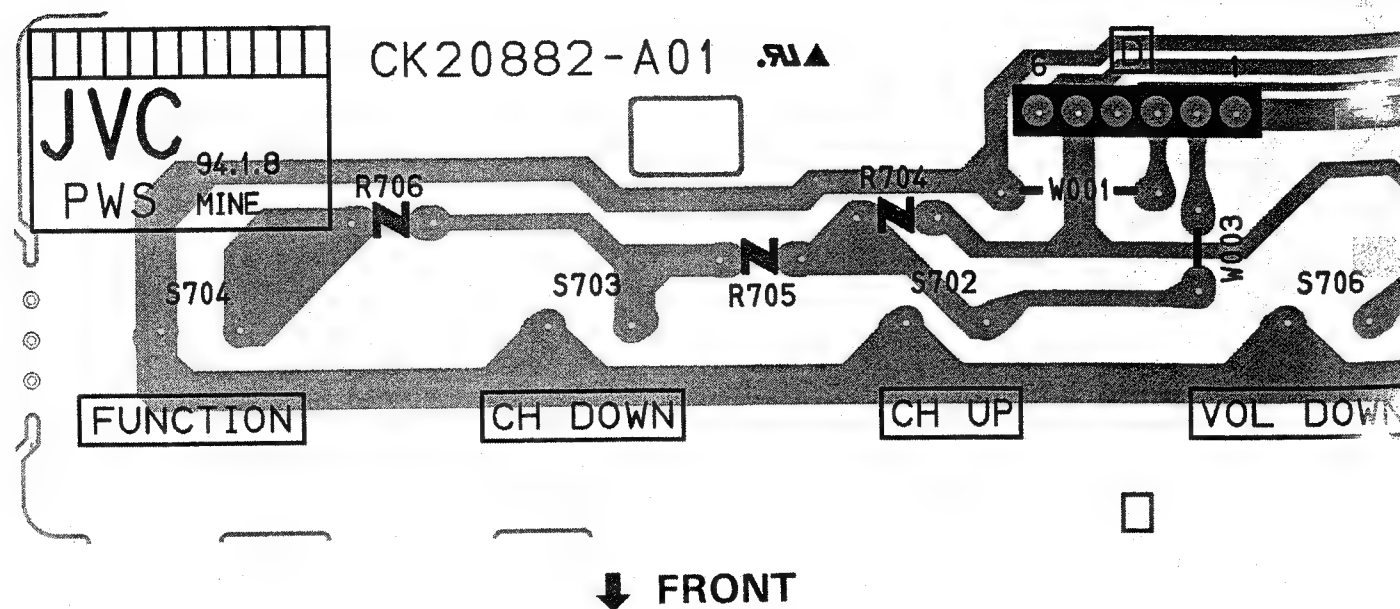
[SOLDER SIDE]

(Magnification Rate 150 %)



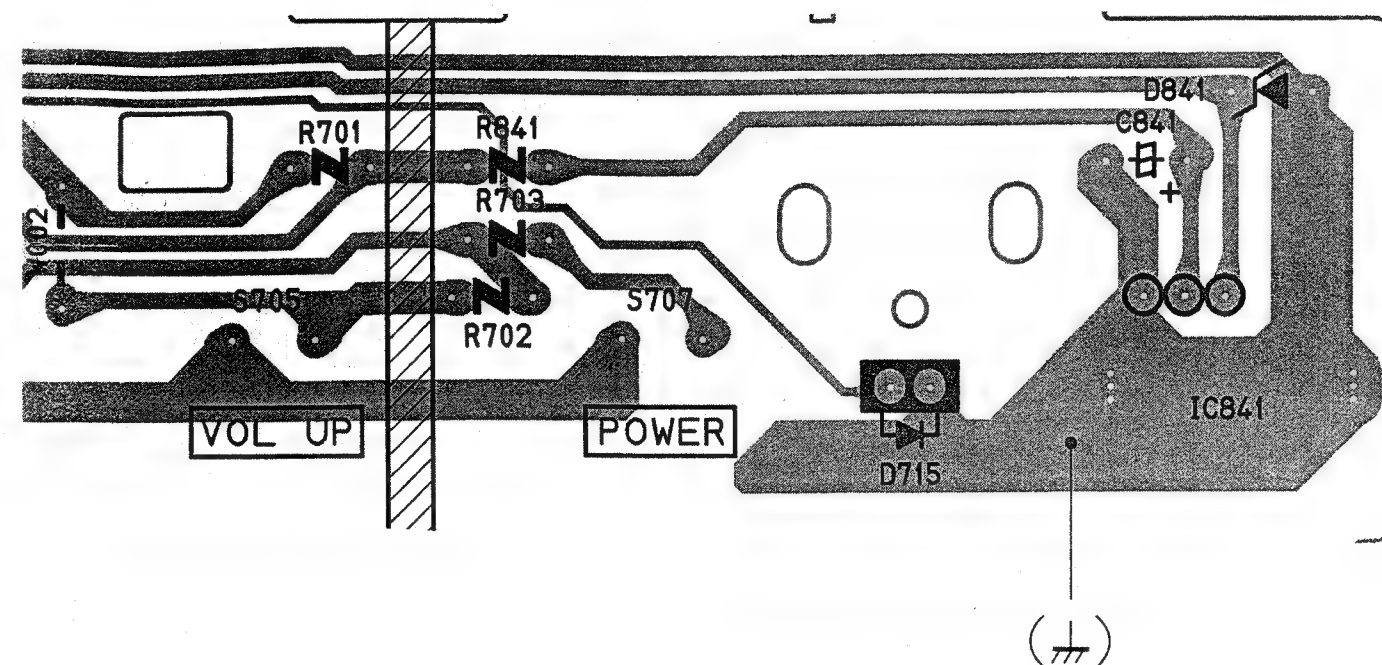
CONTROL PWB PATTERN (AV-27/31BP5 & AV-31BM5)

(SGM-4001A-H2)



AV-27/31/35BP5  
AV-31BM5

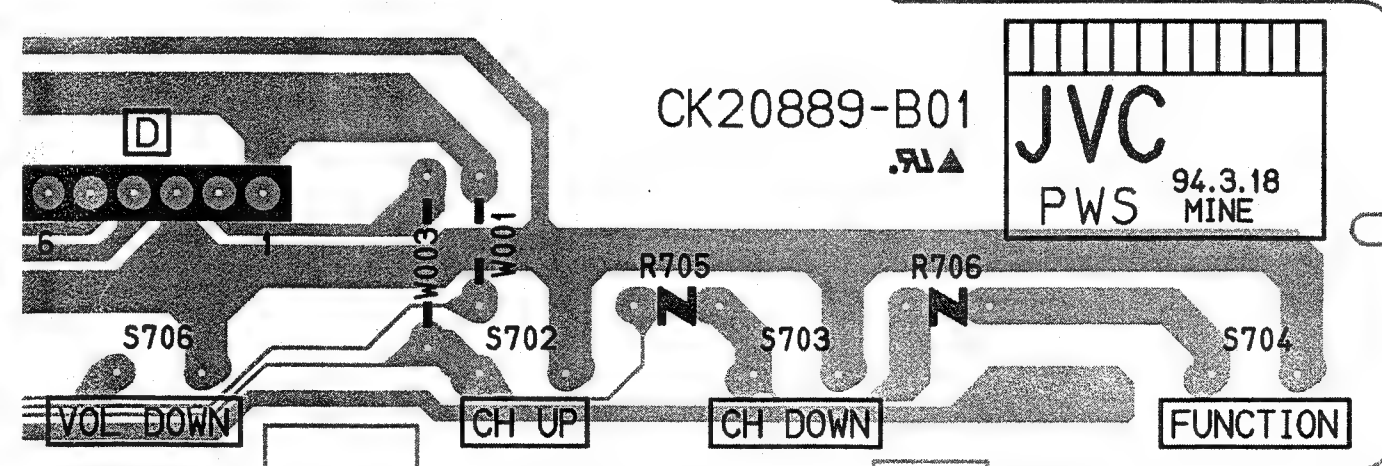
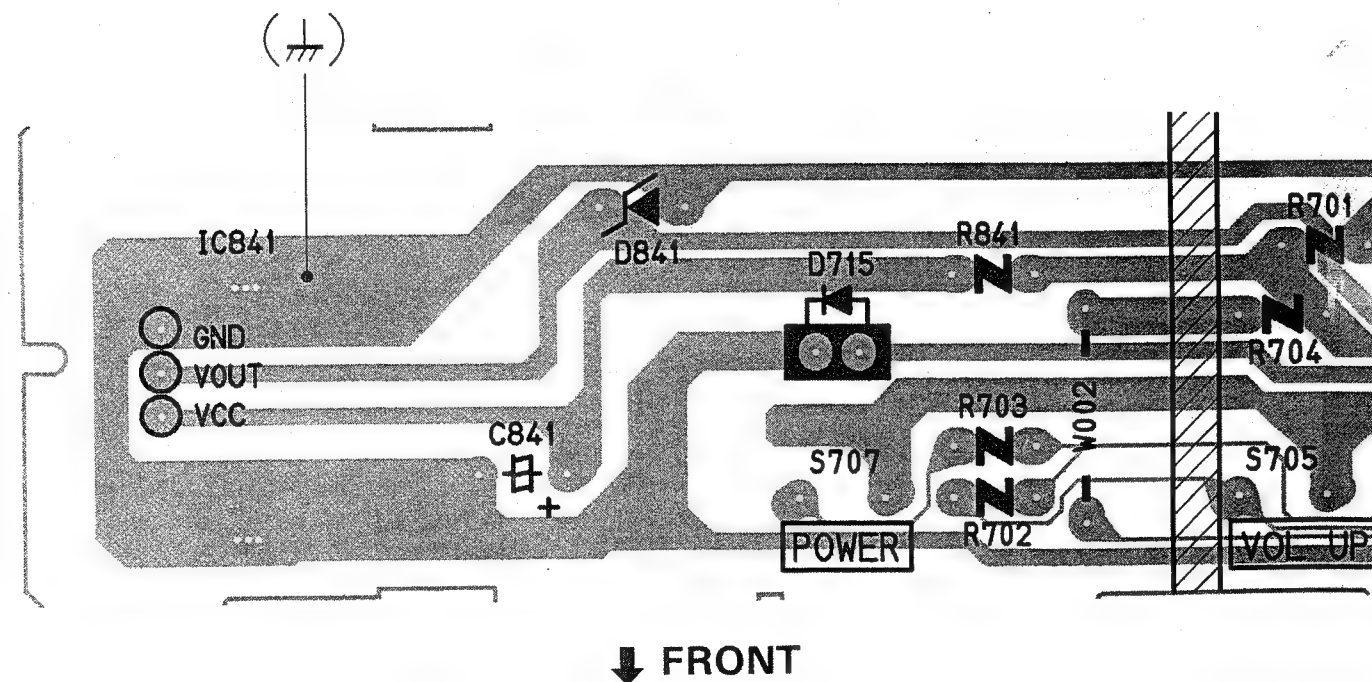
(Magnification Rate 216 %)



CONTROL PWB PATTERN (AV-35BP5)

(SGM-4004A-H2)

(Magnification Rate 230 %)

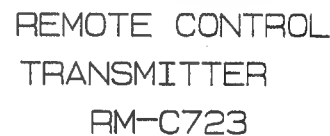


(No.50850) 3-73

3-74 (No.50850)



(RM-C723-01-A)

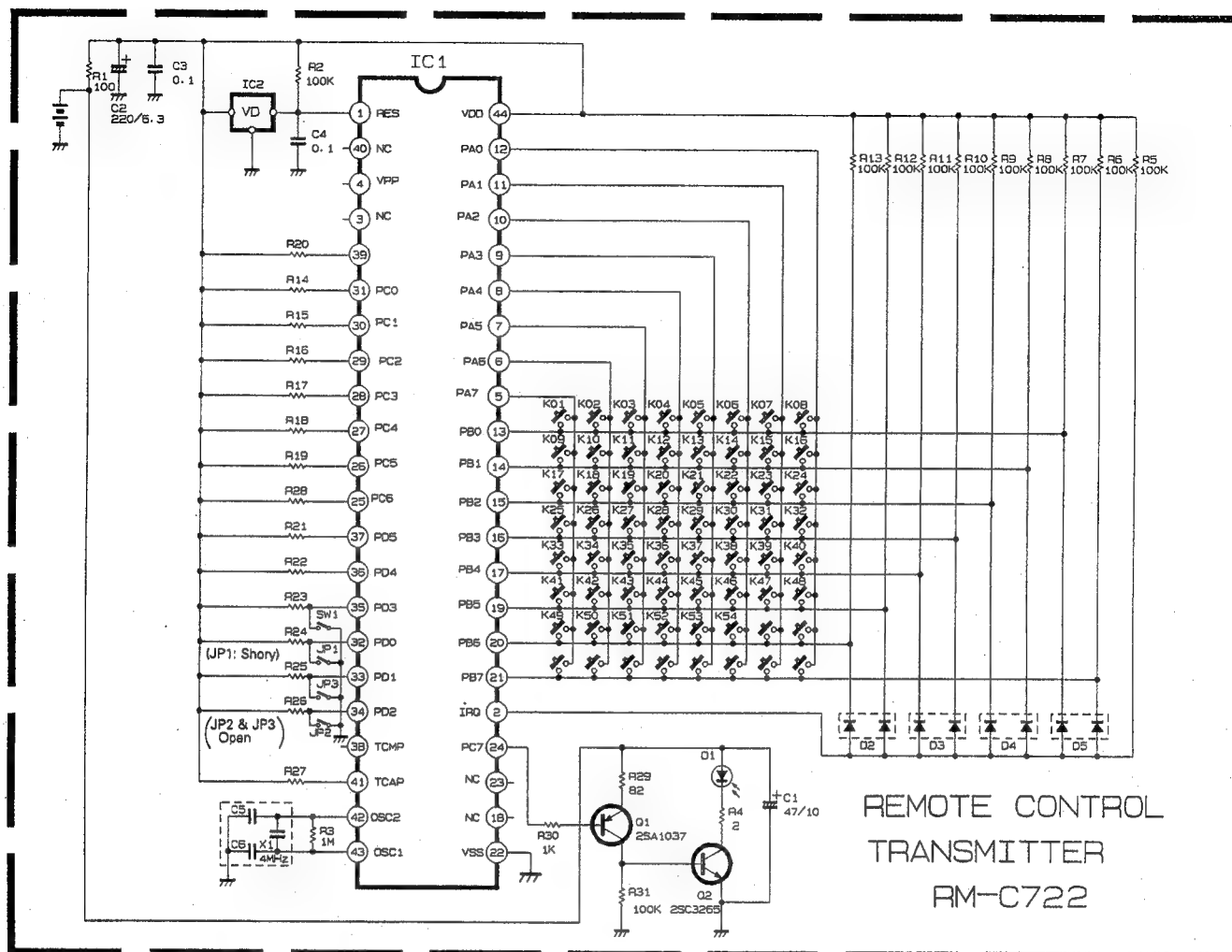


● KEY FUNCTION [RM-C723 (AV-27/31/35BP5)]

No.	Key name	No.	Key name	No.	Key name	No.	Key name
1	_____	14	1	27	0	40	STOP □
2	LIVE / EFFEX	15	2	28	RETURN	41	PAUSE □□
3	DISPLAY	16	3	29	_____	42	VCR POWER
4	POWER	17	THEATER / AV STATUS	30	CH -	43	VCR CH -
5	_____	18	4	31	CH +	44	VCR CH +
6	PIP ON/OFF	19	5	32	_____	45	HELP
7	PIP POSITION	20	6	33	MUTE	46	_____
8	PIP SWAP	21	SLEEP TIMER	34	VOL -	47	_____
9	CATEGORY PREVIEW	22	7	35	VOL +	48	EXIT
10	PIP SOURCE	23	8	36	REW ◀	49	MENU △
11	PIP FREEZE	24	9	37	PLAY ▶	50	MENU ◀
12	PIP SIZE	25	TV / VIDEO	38	FF ▶▶	51	MENU ▶
13	CLOSED CAPTION	26	100 +	39	REC ○	52	MENU ▽

REMOTE CONTROL TRANSMITTER CIRCUIT DIAGRAM (AV-31BM5)

(RM-C722-01-A)



• KEY FUNCTION [RM-C722 (AV-31BM5)]

No.	Key name	No.	Key name	No.	Key name	No.	Key name
1	_____	14	1	27	0	40	STOP □
2	LIVE / EFFEX	15	2	28	RETURN	41	PAUSE □□
3	DISPLAY	16	3	29	_____	42	VCR POWER
4	POWER	17	THEATER / AV STATUS	30	CH -	43	VCR CH -
5	_____	18	4	31	CH +	44	VCR CH +
6	_____	19	5	32	_____	45	HELP
7	_____	20	6	33	MUTE	46	_____
8	_____	21	SLEEP TIMER	34	VOL -	47	_____
9	CATEGORY PREVIEW	22	7	35	VOL +	48	EXIT
10	_____	23	8	36	REW ◀	49	MENU Δ
11	_____	24	9	37	PLAY ▶	50	MENU ◀
12	_____	25	TV / VIDEO	38	FF ▶▶	51	MENU ▶
13	CLOSED CAPTION	26	100 +	39	REC ○	52	MENU ▽

# PARTS LIST

## CAUTION

- The parts identified by the  $\Delta$  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .
- As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board .

When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" .

## ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

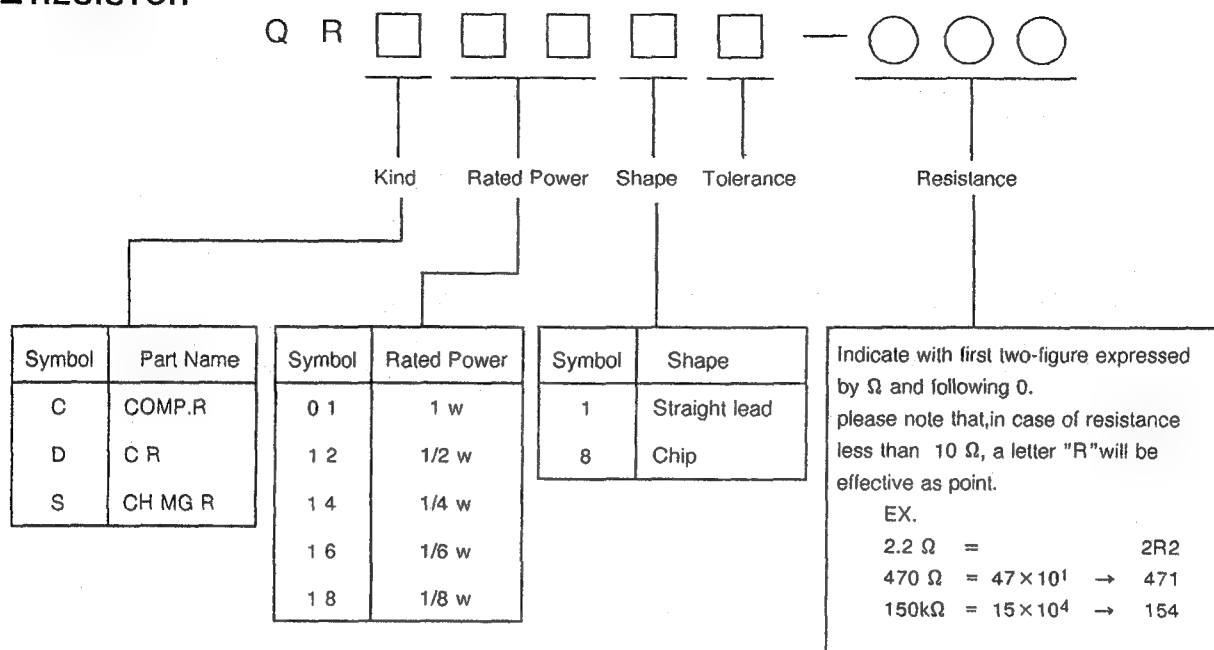
RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

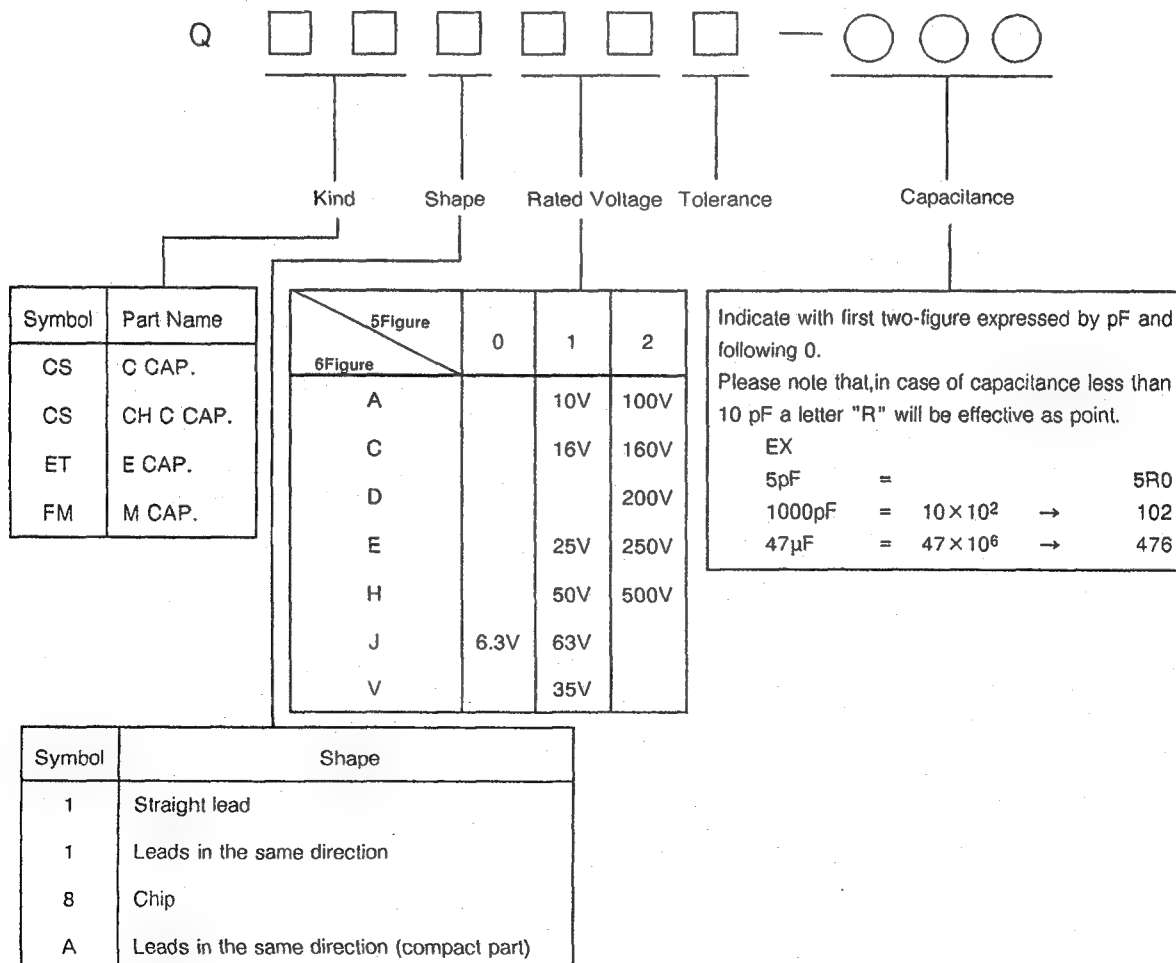


## HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

### ■ RESISTOR



### ■ CAPACITOR



# USING P.W. BOARD

PWB ASSY \ Model		AV-27BP5	AV-31BP5	AV-31BM5	AV-35BP5
MAIN PWB	US	SGM-1001A-H2	SGM-1004A-H2	SGM-1003A-H2	SGM-1006A-H2
	CA	↑	↑	↑	↑
POWER DEF PWB	US	SGM-2001A-H2	SGM-2004A-H2	SGM-2003A-H2	SGM-2006A-H2
	CA	SGM-2501A-H2	SGM-2504A-H2	SGM-2503A-H2	SGM-2506A-H2
CRT SOCKET PWB	US	SGM-3001A-H2	SGM-3003A-H2	SGM-3003A-H2	SGM-3006A-H2
	CA	↑	↑	↑	↑
CONTROL PWB	US	SGM-4001A-H2	SGM-4001A-H2	SGM-4001A-H2	SGM-4004A-H2
	CA	↑	↑	↑	↑
AV TERMI. PWB	US	SGM-8001A-H2	SGM-8001A-H2	SGM-8003A-H2	SGM-8004A-H2
	CA	↑	↑	↑	↑
DBF PWB	US	_____	_____	_____	SGM-9201A-H2
	CA	_____	_____	_____	↑
PIP MODULE PWB	US	SGM-P001A-H2	SGM-P001A-H2	_____	SGM-P001A-H2
	CA	↑	↑	_____	↑
REMOTE CONTROL UNIT	US	RM-C723-01-A	RM-C723-01-A	RM-C722-01-A	RM-C723-01-A
	CA	↑	↑	↑	↑

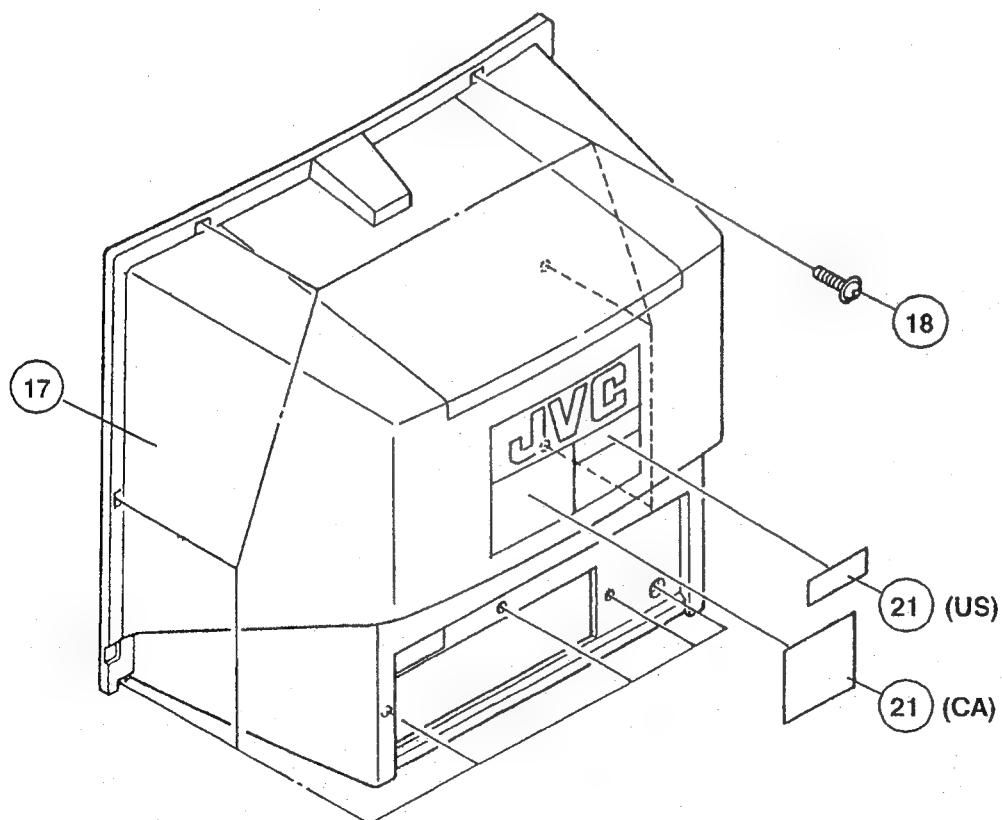
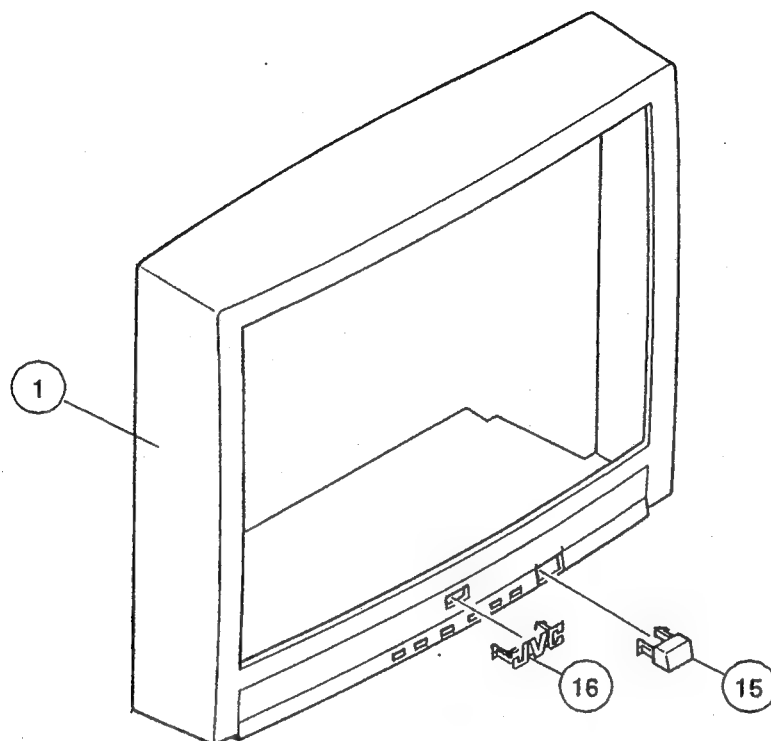
## EXPLODED VIEW PARTS LIST (AV-27BP5)

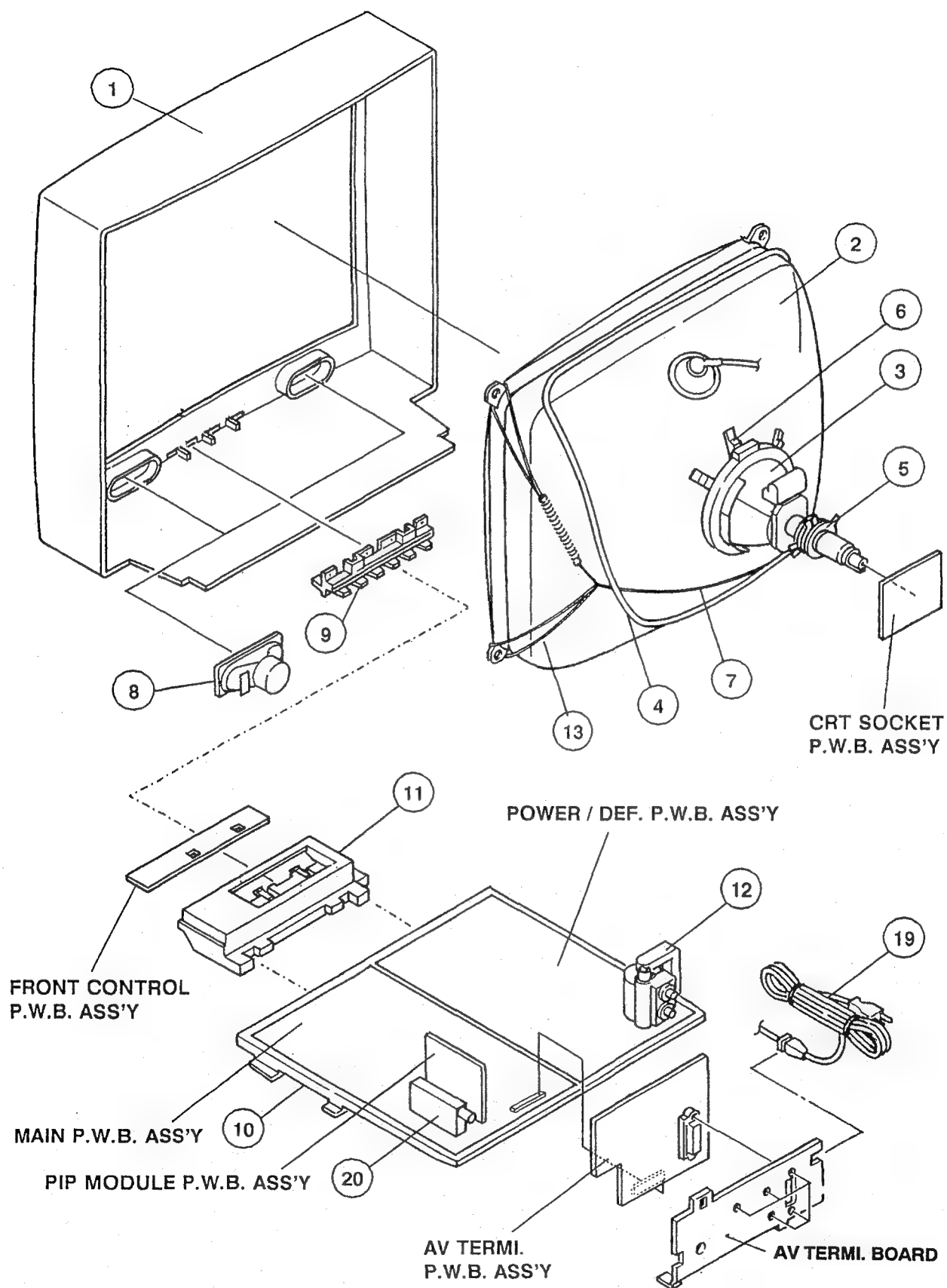
△ Ref.No.	Part No.	Part Name	Description	Local
△ 1	CM12619-00D-MA	FRONT CABI ASSY		*
△ 2	A68KRQ58X(D)	PICTURE TUBE	V01	*
△ 3	CE20277-00A	DEF YOKE	DY01	*
△ 4	CE41329-00CJ2	DEG. COIL	L01	*
5	A75034-B	P.C.MAGNET		
6	AAM4003-00A-C	WEDGE ASSY	(× 4)	*
7	CHGB0015-0D-FA	BRAIDED ASSY		*
△ 8	CEBSM12D-05KJ4	SPEAKER	(× 2)(SP01,SP02)	*
9	CM35776-001-H	PUSH KNOB		*
10	CM12537-B01-VA	CHASSIS BASE		*
11	CM22670-001-A	CONTROL BASE		*
△ 12	CJ27898-00AJ1	FBT	T2502	*
13	CHGB0016-0C-FA	SUB BRAIDED ASSY		*
15	CM35775-A01-H	REMOCON WINDOW		*
16	CM43094-006-H	JVC MARK		*
△ 17	CM12415-091-MA	REAR COVER		*
18	GBSB4016N	TAPPING SCREW	(× 10)	*
△ 19	QMP14C0-200J3	POWER CORD		*
△ 20	CEEM245-B02	TUNER	TU1001	*
△ 21	CM44889-005-A	RATING LABEL	(US)	*
△ 21	CM20925-A12-A	RATING LABEL	(CA)	*

## EXPLODED VIEW PARTS LIST (AV-31BP5 / AV-31BM5)

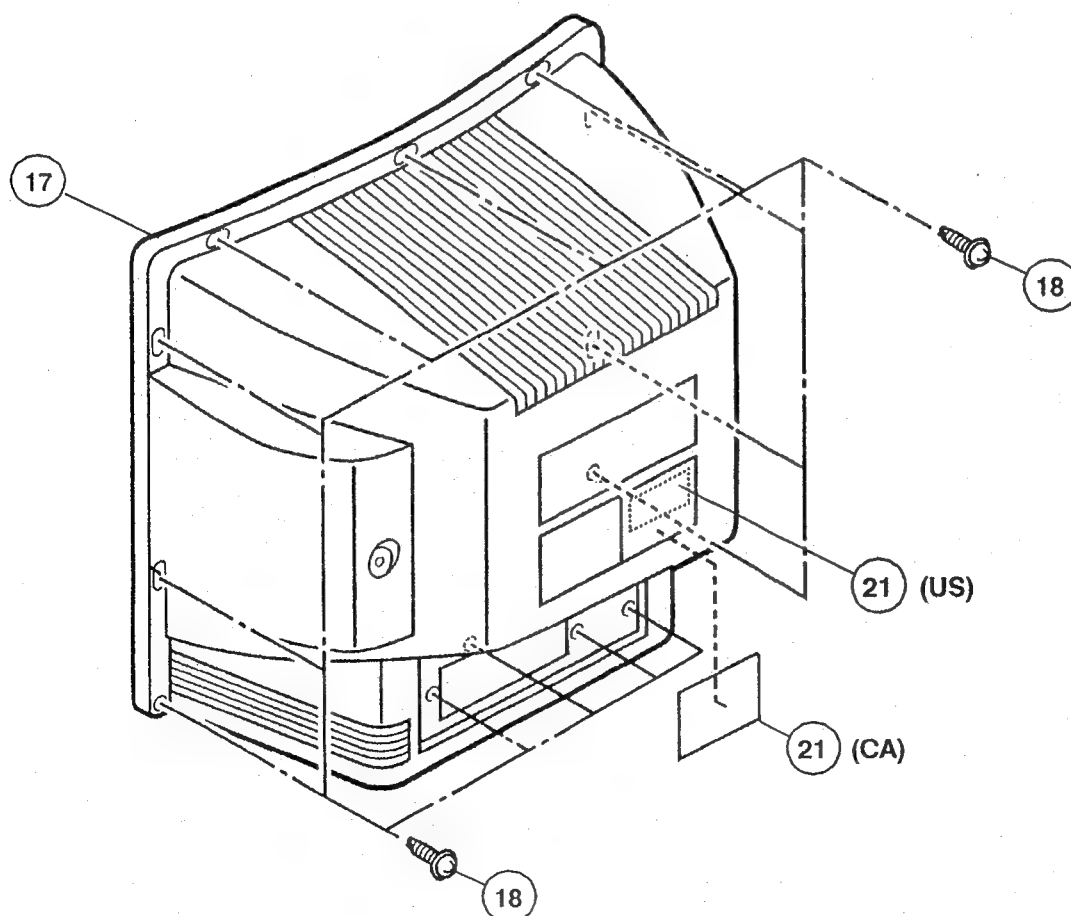
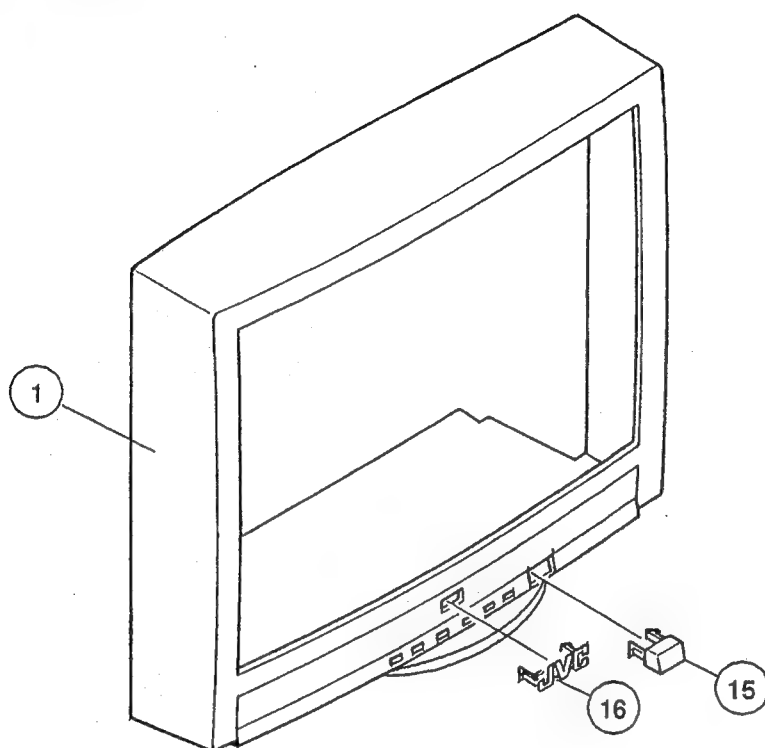
△ Ref.No.	Part No.	Part Name	Description	Local
△ 1	CM12618-00A-MA	FRONT CABI ASSY		*
△ 2	MA78JUA069X	PICTURE TUBE	V01	*
△ 3	CE20273-A0A	DEF YOKE	DY01	*
△ 4	CELD028-003J3	DEG. COIL	L01	*
5	A75034-B	P.C.MAGNET		
6	AAM4003-00A-C	WEDGE ASSY	(× 4)	*
7	CHGB0015-0E-FA	BRAIDED ASSY		*
△ 8	CEBSM12D-05KJ4	SPEAKER	(× 2)(SP01,SP02)	*
9	CM35776-001-H	PUSH KNOB		*
10	CM12537-B01-VA	CHASSIS BASE		*
11	CM22670-001-A	CONTROL BASE		*
△ 12	CJ27898-00AJ1	FBT	T2502	*
13	CHGB0016-0D-FA	SUB BRAIDED ASSY		*
15	CM35983-001-H	REMOCON WINDOW		*
16	CM43094-006-H	JVC MARK		*
△ 17	CM12418-031-MA	REAR COVER		*
18	GBSB4016N	TAPPING SCREW	(× 13)	*
△ 19	QMP14C0-200J3	POWER CORD		*
△ 20	CEEM245-B02	TUNER	TU1001	*
△ 21	CM44889-005-A	RATING LABEL	(US)	*
△ 21	CM20925-A12-A	RATING LABEL	(CA)	*

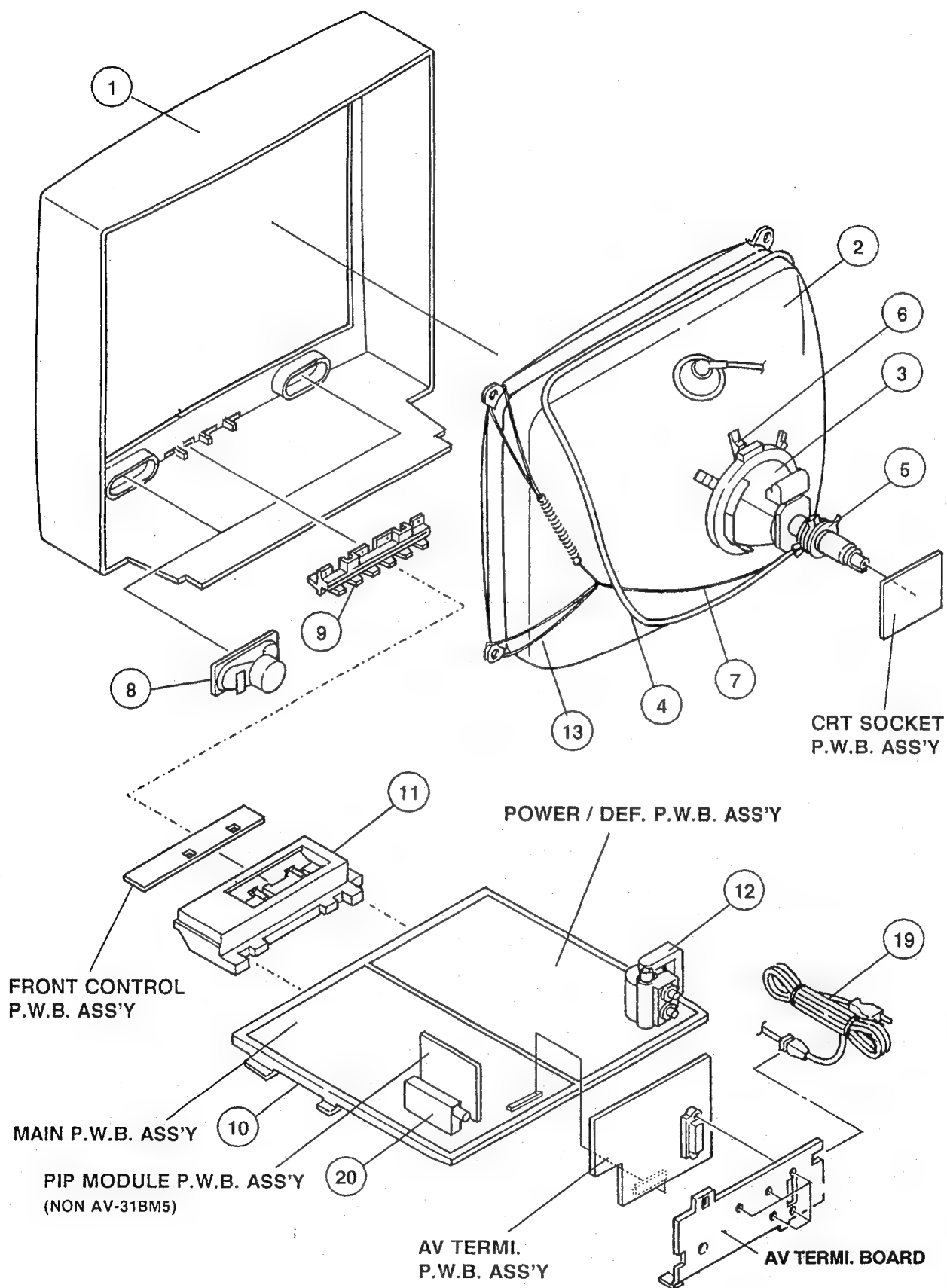
# EXPLODED VIEW (AV-27BP5)





# EXPLODED VIEW (AV-31BP5, AV-31BM5)



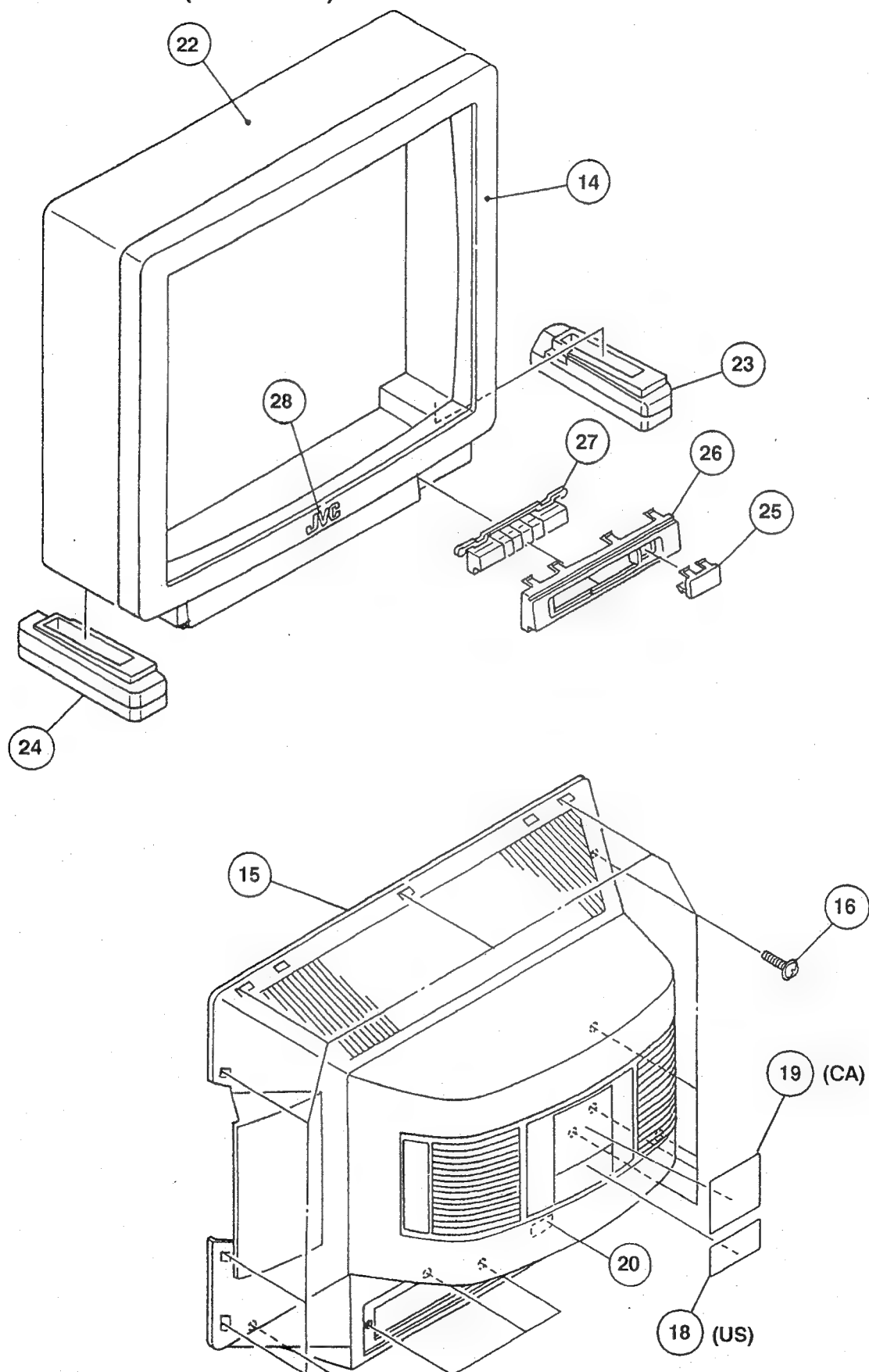


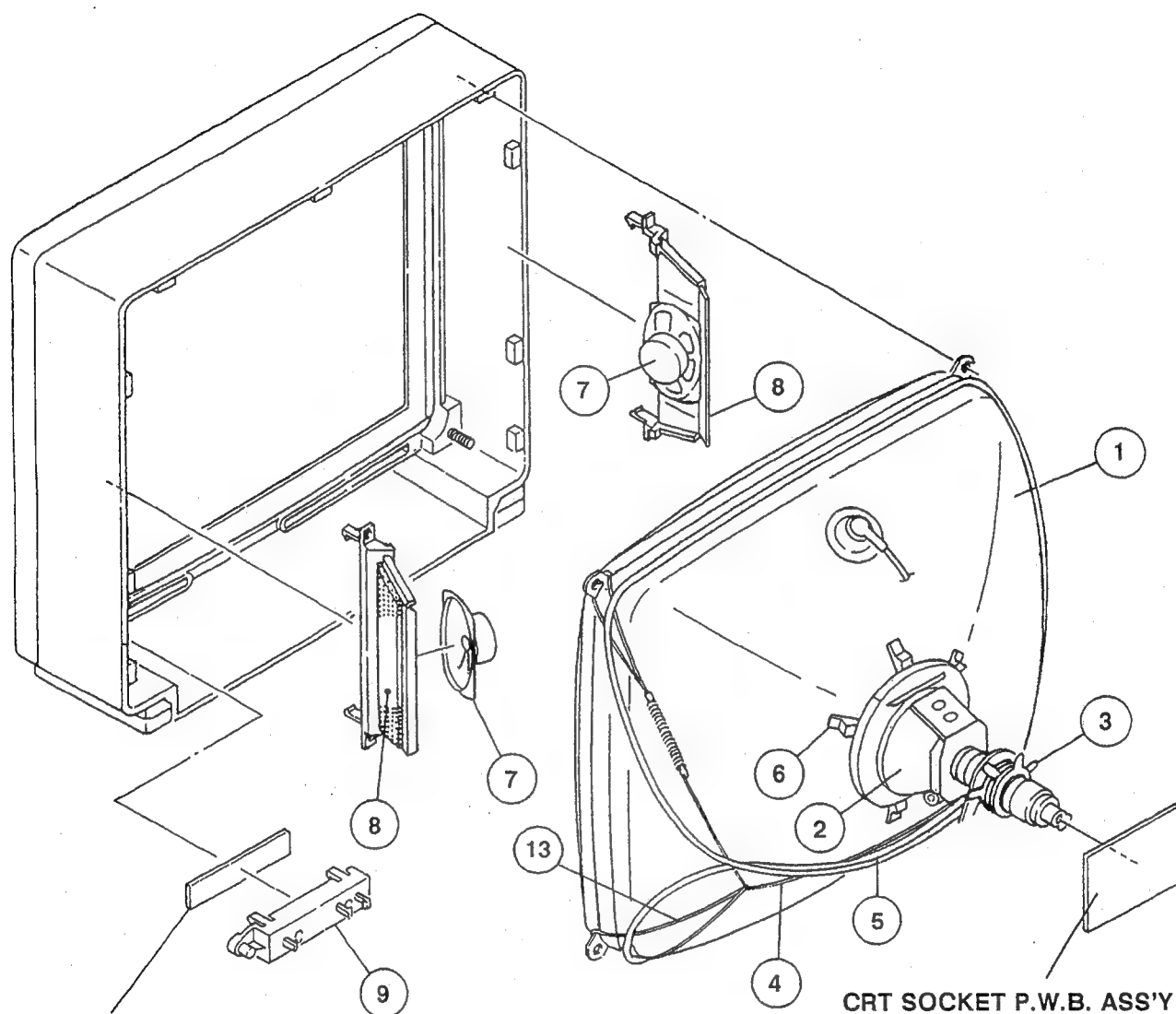
## EXPLODED VIEW PARTS LIST (AV-35BP5)

△ Ref.No.	Part No.	Part Name	Description	Local
△ 1	A89LFL50X(V)	PICTURE TUBE	V01	*
△ 2	CE20272-A0A	DEF YORK	DY01	*
3	CE42419-00A	P.C.MAGNET		*
4	CHGB0009-0D-FA	BRAIDED ASSY		*
△ 5	CELD032-001J3	DEG. COIL	L01	*
6	CE40764-00A	WEDGE ASSY	(×4)	
△ 7	CEBSN12D-03KJ3	CONE SPEAKER	(×2)SP01,SP02	*
△ 8	CM34678-B0A-KD	SPEAKER GRILLE	(×2)	*
9	CM22065-A01-VA	CONTROL BASE(B)		*
△ 10	CEEM245-B02	TUNER	TU1001	*
△ 11	CE42485-001KJ1	HVT	T2502	*
12	CM12539-B01-VA	CHASSIS BASE		*
13	CHGB0016-0D-FA	SUB BRAIDED ASSY		*
△ 14	CM12170-00H-MA	FRONT PANEL ASSY		*
△ 15	CM11712-A41-MA	REAR COVER		*
16	GBSB4016N	TAPPING SCREW	(×15)	*
△ 17	QMP14C0-200J3	POWER CORD		*
△ 18	CM44889-005-A	RATING LABEL	(US)	*
△ 19	CM20925-A12-A	RATING LABEL	(CA)	*
20	CM47691-001-A	HYATT LABEL		*
△ 22	CM11787-A0B-MA	BODY COVER ASSY		*
△ 23	CM21755-00E-KD	FOOT ASSY(R)		*
△ 24	CM21755-00F-KD	FOOT ASSY(L)		*
25	CM33754-001-V0	REMOCON WINDOW		*
26	CM11791-A03-VA	CONTROL PANEL		*
27	CM33823-00B-KH	PUSH KNOB ASSY		*
28	CM46084-A01	BRAND MARK		*



# EXPLODED VIEW (AV-35BP5)





CONTROL  
P.W.B. ASS'Y

CRT SOCKET P.W.B. ASS'Y

POWER / DEF.  
P.W.B. ASS'Y

MAIN  
P.W.B. ASS'Y

DBF P.W.B. ASS'Y

PIP MODULE  
P.W.B. ASS'Y

AV TERMINAL  
P.W.B. ASS'Y

AV TERMINAL BOARD

# PRINTED WIRING BOARD PARTS LIST MAIN PW BOARD ASS'Y [SGM-1001A-H2 (AV-27BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1131	QVPE611-102HZ	V R(DET.OUT LEVEL)	1kΩ B	
R1142	QVPE611-103HZ	V R(NOISE)	10kΩ B	
RESISTOR				
R1001	QRD149J-150S	C R	15 Ω 1/4W J	
R1155	NRVA02D-1502NY	CHIP MF R	15kΩ 1/10W ±0.5%	
R1156	NRVA02D-1501NY	CHIP MF R	1.5kΩ 1/10W ±0.5%	
R1601	QRD149J-100S	C R	10 Ω 1/4W J	
R1659	QRD149J-2R2S	C R	2.2 Ω 1/4W J	
R1661	QRD149J-2R2S	C R	2.2 Ω 1/4W J	
R1792	QRD123J-101SX	C R	100 Ω 1/2W J	
R1806	NRVA02D-1502NY	CHIP MF R	15kΩ 1/10W ±0.5%	
△ R1985	QRG039J-100A	OM R	10 Ω 3W J	
CAPACITOR				
C1005	QFLC1HK-103MZ	M CAP.	0.01 μF 50V K	
C1009-12	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1014	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1053	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1101	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1104	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1108	QFV41HJ-224M	TF CAP.	0.22 μF 50V J	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1113	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1119	NCF21HZ-104AY	CHIP C CAP.	0.1 μF 50V Z	
C1125	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	
C1127	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1128	NCT03CH-820AY	CHIP CAP.	82 pF 1600V H	
C1133	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1139	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1140	NCT03CH-101AY	CHIP CAP.	100 pF 1600V H	
C1141	NCB21EK-683AY	CHIP CAP.	0.068 μF 25V K	
C1142	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1143	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1144	QEB61HM-104MZ	E CAP.	0.1 μF 50V M	
C1145	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	
C1146-47	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C1153	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
C1154	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
C1155	QEN61HM-475Z	BP E CAP.	4.7 μF 50V M	
C1156	QEN61CM-106Z	BP E CAP.	10 μF 16V M	
C1157	QEB61HM-104MZ	E CAP.	0.1 μF 50V M	
C1158	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
C1160	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
C1164	QEE61CK-335BZ	TAN.CAP.	3.3 μF 16V K	
C1165	QEE61CK-106BZ	TAN.CAP.	10 μF 16V K	
C1167-68	QEN61CM-106Z	BP E CAP.	10 μF 16V M	
C1201	NCT03CH-470AY	CHIP CAP.	47 pF 1600V H	
C1202	QEN61CM-226Z	BP E CAP.	22 μF 16V M	
C1241	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
C1271	QEN61HM-475Z	BP E CAP.	4.7 μF 50V M	
C1273	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	
C1274	QEN61HM-474Z	BP E CAP.	0.47 μF 50V M	
C1275	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1277	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1278	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V J	
C1331	NCT03CH-680AY	CHIP CAP.	68 pF 1600V H	
C1332	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1333	NCT03CH-8R0AY	CHIP CAP.	8 pF 1600V H	
C1334	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C1335	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1336	NCT03CH-121AY	CHIP CAP.	120 pF 1600V	H
C1337	NCT03CH-221AY	CHIP CAP.	220 pF 1600V	H
C1373	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1390	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V	Z
C1392	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V	J
C1393	NCT03CH-150AY	CHIP CAP.	15 pF 1600V	H
C1398-99	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V	Z
C1451-52	QFV71HJ-224MZ	TF CAP.	0.22 $\mu$ F 50V	J
C1453	QFLC1HJ-223MZ	M CAP.	0.022 $\mu$ F 50V	J
C1562-63	QFLC1HJ-103MZ	M CAP.	0.01 $\mu$ F 50V	J
C1564	NCT03CH-120AY	CHIP CAP.	12 pF 1600V	H
C1566	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V	K
C1575	QFV71HJ-474MZ	TF CAP.	0.47 $\mu$ F 50V	J
C1577	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1578	NCS21HJ-271AY	CHIP C CAP.	270 pF 50V	J
C1602	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1604-05	QFN31HK-222ZJ1	M CAP.	2200 pF 50V	K
C1606	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1607	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1608-09	NCB21HK-682AY	CHIP CAP.	6800 pF 50V	K
C1610	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1619-20	QEN61CM-226Z	BP E CAP.	22 $\mu$ F 16V	M
C1621	NCS21HJ-681AY	CHIP C CAP.	680 pF 50V	J
C1622	QFLC1HJ-823MZ	M CAP.	0.082 $\mu$ F 50V	J
C1652	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V	J
C1654	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V	J
C1662	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V	J
△ C1663	QETC1CM-108Z	E CAP.	1000 $\mu$ F 16V	M
C1664	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V	J
△ C1665	QETC1CM-108Z	E CAP.	1000 $\mu$ F 16V	M
△ C1669	QETB1VM-108	E CAP.	1000 $\mu$ F 35V	M
C1701	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V	M
C1702	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1704	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V	K
C1708	NCT03CH-180AY	CHIP CAP.	18 pF 1600V	H
C1709-11	NCT03CH-330AY	CHIP CAP.	33 pF 1600V	H
C1713-14	NCB21HK-102AY	CHIP CAP.	1000 pF 50V	K
C1717	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V	K
C1721	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V	K
C1801-02	NCB21HK-332AY	CHIP CAP.	3300 pF 50V	K
C1803	NCB21HK-153AY	CHIP CAP.	0.015 $\mu$ F 50V	K
C1804	QEN61HM-105Z	BP E CAP.	1 $\mu$ F 50V	M
C1807	NCT03CH-470AY	CHIP CAP.	47 pF 1600V	H
C1808	NCB21HK-332AY	CHIP CAP.	3300 pF 50V	K
C1811	NCT03CH-101AY	CHIP CAP.	100 pF 1600V	H
C1813	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V	K
C1825-26	NCT03CH-330AY	CHIP CAP.	33 pF 1600V	H
C1827-29	NCT03CH-331AY	CHIP CAP.	330 pF 1600V	H
C1830	NCT03CH-101AY	CHIP CAP.	100 pF 1600V	H
C1831	NCB21HK-682AY	CHIP CAP.	6800 pF 50V	K
C1852	NCT03CH-8R0AY	CHIP CAP.	8 pF 1600V	H
C1984	QEH1CM-107MZ	E CAP.	100 $\mu$ F 16V	M
C1990	QETC1HM-108Z	E CAP.	1000 $\mu$ F 50V	M
<b>TRANSFORMER</b>				
T1111	CE40123-501	AFC TRANSF		
T1115	CELT003-105	CW TRANSF		
T1116	CELT003-106	SIF TRANSF		
T1331	CE41301-001J1	BAND PASS FILTER		
T1801	CE42470-001	OSC COIL		
<b>COIL</b>				
L1001	CELP055-150Z	PEAKING COIL	15 $\mu$ H	

△ Symbol No.	Part No.	Part Name	Description	Local
<b>C O I L</b>				
L1102	CE41131-R47Y	CHIP INDUCTOR		
L1105	CE41131-R47Y	CHIP INDUCTOR		
L1106	CE41131-R56Y	INDUCTOR		
L1109	CE41131-2R2Y	CHIP INDUCTOR		
L1121	CE41131-150Y	CHIP INDUCTOR		
L1201	CELP055-6R8Z	PEAKING COIL	6.8 $\mu$ H	
L1203	CELP055-470Z	PEAKING COIL	47 $\mu$ H	
L1331	CELP055-820Z	PEAKING COIL	82 $\mu$ H	
L1332	CELP055-3R9Z	PEAKING COIL	3.9 $\mu$ H	
L1701-02	CELP055-4R7Z	PEAKING COIL	4.7 $\mu$ H	
L1802	CELP055-2R2Z	PEAKING COIL	2.2 $\mu$ H	
<b>D I O D E</b>				
D1001	MA3330(L)-W	ZENER DIODE		
D1262	RD9.1ES(B2)-T2	ZENER DIODE		
D1265	MA151K-W	SI. DIODE		
D1271	MA151K-W	SI. DIODE		
D1281-82	MA3068(M)-W	ZENER DIODE		
D1331-32	MA151K-W	SI. DIODE		
D1351-53	MA151K-W	SI. DIODE		
D1354	MA165-T2	SI. DIODE		
D1355	MTZJ4.3(A)-T2	ZENER DIODE		
D1356	MA165-T2	SI. DIODE		
D1357	MTZJ4.3(A)-T2	ZENER DIODE		
D1358	MA165-T2	SI. DIODE		
D1359	MTZJ4.3(A)-T2	ZENER DIODE		
D1372	MA151K-W	SI. DIODE		
D1575-76	MA151K-W	SI. DIODE		
D1651-52	RD33E(B1)-T2	ZENER DIODE		
D1701-02	MA3062(M)-W	ZENER DIODE		
D1703-04	MA151K-W	SI. DIODE		
D1705-07	MA3068(M)-W	ZENER DIODE		
D1708-09	MA3062(M)-W	ZENER DIODE		
D1721	MA151K-W	SI. DIODE		
D1723-24	MA151K-W	SI. DIODE		
D1790-92	MA151K-W	SI. DIODE		
D1797	MTZJ15(A)-T2	ZENER DIODE		
D1851-53	MA151K-W	SI. DIODE		
D1871	MA152WK-W	DIODE		
D1872	MA151K-W	SI. DIODE		
<b>T R A N S I S T O R</b>				
Q1101	2SC4502-T	SI. TRANSISTOR		
Q1103	2SA1022(BC)-W	SI. TRANSISTOR		
Q1105	2SC2778(BC)-W	SI. TRANSISTOR		
Q1201	2SC2778(BC)-W	SI. TRANSISTOR		
Q1202	2SA1022(BC)-W	SI. TRANSISTOR		
Q1231-32	2SC2778(BC)-W	SI. TRANSISTOR		
Q1261	2SC2778(BC)-W	SI. TRANSISTOR		
Q1271	2SA1022(BC)-W	SI. TRANSISTOR		
Q1272	DTC323TK-W	DIGI. TRANSISTOR		
Q1331-34	2SC2778(BC)-W	SI. TRANSISTOR		
Q1351-53	2SA1022(BC)-W	SI. TRANSISTOR		
Q1371	2SC2778(BC)-W	SI. TRANSISTOR		
Q1374	2SC2778(BC)-W	SI. TRANSISTOR		
Q1375	2SA1022(BC)-W	SI. TRANSISTOR		
Q1385	2SA1022(BC)-W	SI. TRANSISTOR		
Q1386	2SC2778(BC)-W	SI. TRANSISTOR		
Q1443	2SC2778(BC)-W	SI. TRANSISTOR		
Q1561	2SC2778(BC)-W	SI. TRANSISTOR		
Q1562	2SA1022(BC)-W	SI. TRANSISTOR		
Q1575	2SC2778(BC)-W	SI. TRANSISTOR		
Q1576	2SA1022(BC)-W	SI. TRANSISTOR		
Q1651	2SC2778(BC)-W	SI. TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S I S T O R				
Q1681	DTA144TK-W	DIGI. TRANSISTOR		
Q1682-83	DTC323TK-W	DIGI. TRANSISTOR		
Q1701	2SC2778(BC)-W	SI. TRANSISTOR		
Q1801	2SA1022(BC)-W	SI. TRANSISTOR		
Q1802-03	2SC2778(BC)-W	SI. TRANSISTOR		
Q1851	2SC2778(BC)-W	SI. TRANSISTOR		
Q1853-54	2SC2778(BC)-W	SI. TRANSISTOR		
Q1855	2SC3773(3-4)-W	SI. TRANSISTOR		
Q1856-58	2SC2778(BC)-W	SI. TRANSISTOR		
Q1871-76	2SC2778(BC)-W	SI. TRANSISTOR		
Q1877	2SC3773(3-4)-W	SI. TRANSISTOR		
I C				
IC1101	LA7577N	I.C(MONO-ANA)		
IC1151	ATT1852ACT	I C		
IC1191	AN78L09-Y	IC		
IC1201	JCC1003B	I.C(MONO-ANA)		
IC1601	ATT1853CT	IC		
△ IC1651	MC13516T2	I.C(MONO-ANA)		
IC1681	BA15218N	I.C.(M)		
IC1701	MN1876466JKN1	I C		
IC1702	AT24C08/27BP5	IC (SERVICE)		
IC1703	MN1280-Q	I.C(DIGI-MOS)		
IC1791	AN78L05-Y	I.C.		
IC1801	LC7458B-04	IC		
IC1802	LA7945N	I.C(MONO-ANA)		
IC1803	MN1280-Q	I.C(DIGI-MOS)		
IC1871	AN5860	I.C.(M)		
△ IC1981	LM2940CT-12	I.C(MONO-ANA)		
△ IC1982	KIA7809PI	I C		
IC1983	AN78L05-Y	I.C.		
O T H E R S				
CF1002	FTP47.25MA	CERAMIC TRAP		
CF1102	CE41505-001	CERAMIC FILTER		
CF1106	SFSH4.5MCB	CERAMIC FILTER		
CF1701	CST8.00MT	CER. RESONATOR		
CF1801	CSA12.0MT	CER. RESONATOR		
CN1003	CHA401N-35P-J	HQF PLUG		
K1702-05	CE42050-001Z	CORE		
K1801-04	CE42050-001Z	CORE		
K1871	CE41433-001Z	BEADS CORE		
SF1101	CE41031-202	SAW FILTER		
SF1102	CE42377-201	SAW FILTER		
X1391	CE41651-001Z	X-TAL		

**POWER / DEF PW BOARD ASS'Y [SGM-2001A-H2 (AV-27BP5)]**

Regarding the POWER DEF PW Board Ass'y [ SGM-2501A-H2 ] for the model for canada, refer to page 4-18.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
	R2410	QRX019J-R82S	MF R 0.82 Ω 1W	J
	R2418	QRG019J-221S	OM R 220 Ω 1W	J
	R2503	QRD123J-562SX	C R 5.6k Ω 1/2W	J
△	R2504	QRG039J-332A	OM R 3.3k Ω 3W	J
△	R2505	QRG039J-332A	OM R 3.3k Ω 3W	J
△	R2512	QRD121J-681SY	C R 680 Ω 1/2W	J
	R2514	QRG039J-822A	OM R 8.2k Ω 3W	J
△	R2521	QRD149J-1R0S	C R 1 Ω 1/4W	J
△	R2522	QRX039J-1R5A	MF R 1.5 Ω 3W	J
△	R2523	QRD129J-4R7S	C R 4.7 Ω 1/2W	J
△	R2524	QRX039J-3R3A	MF R 3.3 Ω 3W	J
△	R2525	QRF074K-1R8	UNF R 1.8 Ω 7W	K
△	R2531	QRV141F-5361Y	MF R 5.36k Ω 1/4W	F
△	R2532	QRV141F-4871Y	MF R 4.87k Ω 1/4W	F
△	R2901	QRC121K-275UZ	COMP.R 2.7M Ω 1/2W	K
△	R2905	QRF104K-1R0	UNF R 1 Ω 10W	K
	R2909	QRD123J-274SX	C R 270k Ω 1/2W	J
	R2911-12	QRX029J-R22A	MF R 0.22 Ω 2W	J
	R2913-14	QRG039J-330	OM R 33 Ω 3W	J
	R2915	QRG029J-330	OM R 33 Ω 2W	J
	R2916	QRD123J-821SX	C R 820 Ω 1/2W	J
	R2917	QRD123J-153SX	C R 15k Ω 1/2W	J
	R2918	QRD123J-181SX	C R 180 Ω 1/2W	J
	R2931	QRD123J-121SX	C R 120 Ω 1/2W	J
	R2937	QRG019J-152S	OM R 1.5k Ω 1W	J
△	R2938	QRG019J-223S	OM R 22k Ω 1W	J
△	R2940	QRZ009S-R39	UNF R 0.39 Ω	J
	R2941	QRD123J-272SX	C R 2.7k Ω 1/2W	J
△	R2943	QRD123J-223SX	C R 22k Ω 1/2W	J
△	R2944	QRD161J-223Y	C R 22k Ω 1/6W	J
	R2948	QRD123J-182SX	C R 1.8k Ω 1/2W	J
△	R2954	QRG029J-223	OM R 22k Ω 2W	J
<b>C A P A C I T O R</b>				
△	C2407	QETC1VM-107Z	E CAP. 100 μ F 35V	M
△	C2408	QETB1VM-108	E CAP. 1000 μ F 35V	M
	C2410	QEM61EK-335MZ	E CAP. 3.3 μ F 25V	K
	C2412	QFN32DJ-104J1	M CAP. 0.1 μ F 200V	J
	C2417	QFN31HJ-102ZJ1	M CAP. 1000 p F 50V	J
△	C2419	QETC1HM-476Z	E CAP. 47 μ F 50V	M
	C2504	QETC2CM-105Z	E CAP. 1 μ F 160V	M
△	C2511	QFZ0117-2001S	MPP CAP. 2000 p F 1.4kVH ±2.5%	
△	C2512	QFZ0117-6201S	MPP CAP. 6200 p F 1.4kVH ±2.5%	
△	C2513	QFZ0117-6201S	MPP CAP. 6200 p F 1.4kVH ±2.5%	
△	C2514	QFN32DK-104J1	M CAP. 0.1 μ F 200V	K
△	C2516	QFZ0119-434S	MPP CAP. 0.43 μ F 200V ±3%	
	C2517	QETC2EM-225Z	E CAP. 2.2 μ F 250V	M
△	C2518	QCY32HK-561RZ	CH C CAP. 560 p F 500V	K
	C2519-20	QEM61HK-475MZ	E CAP. 4.7 μ F 50V	K
△	C2521	QETB2EM-336	E CAP. 33 μ F 250V	M
△	C2522	QETB1VM-228	E CAP. 2200 μ F 35V	M
△	C2523	QETC1VM-107Z	E CAP. 100 μ F 35V	M
△	C2524	QETC1CM-477Z	E CAP. 470 μ F 16V	M
	C2525	QFV71HJ-104MZ	TF CAP. 0.1 μ F 50V	J
△	C2526	QETB2CM-227	E CAP. 220 μ F 160V	M
	C2528	QFN32DJ-222J1	M CAP. 2200 p F 200V	J
△	C2901	QCZ9029-103M	C CAP. 0.01 μ FAC125V	M
△	C2902	QCZ9029-103M	C CAP. 0.01 μ FAC125V	M
△	C2903	QFZ9036-104M	M.F.CAP. 0.1 μ FAC250V	M
△	C2904	QFZ9036-104M	M.F.CAP. 0.1 μ FAC250V	M
△	C2911	QCZ9033-102A	C CAP. 1000 p FAC125V	K
△	C2912	QCZ9033-102A	C CAP. 1000 p FAC125V	K

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
△ C2913	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2914	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2915	QEZO145-687R	E CAP.	680 μ F 200V	
C2918	QFZO121-272S	MPP CAP.	2700 p F	
C2920	QFN32DK-333J1	M CAP.	0.033 μ F 200V	K
C2921	QFN31HJ-222ZJ1	M CAP.	2200 p F 50V	J
C2922	QEH2AM-107MZ	E CAP.	100 μ F 100V	M
C2923	QEH1HM-336MZ	E CAP.	33 μ F 50V	M
C2931	QETC1VM-477Z	E CAP.	470 μ F 35V	M
△ C2932	QEZO179-337M	E CAP.	330 μ F 200V	
△ C2933	QETB1EM-228	E CAP.	2200 μ F 25V	M
△ C2934	QETB1VM-228	E CAP.	2200 μ F 35V	M
△ C2936	QETC1EM-477Z	E CAP.	470 μ F 25V	M
C2937	QCZO132-152AZ	C CAP.	1500 p F 500V	K
△ C2940	QETC1CM-107Z	E CAP.	100 μ F 16V	M
C2945	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V	J
TRANSFORMER				
T2501	CE42034-002J1	HOR DRIVE TRANS		
△ T2901	CE41741-001J1	POWER TRANSF		
△ T2902	CE42395-002J1	SW TRANSF		
COIL				
△ L2501	CELL004-001	LINEARITY COIL		
L2502	CE40973-001J1	CHOKO COIL		
△ L2503	CELC901-054J6	COIL		
△ L2931	CELC901-050J6	HEATER CHOKE		
△ L2932	CELC901-050J6	HEATER CHOKE		
DIODE				
△ D2401	1N4003-T3	SI.DIODE		
D2402	RD75E(B)-T5	ZENER DIODE		
D2403	MA4043(M)-T2	ZENER DIODE		
D2407	MA165-T2	SI.DIODE		
△ D2501	ERD07-15-L	SI.DIODE		
△ D2502	RU30-C1	SI.DIODE		
D2505	RU2-T3	SI.DIODE		
△ D2521	RH1S-T3	SI.DIODE		
△ D2522	RGP10J(C1)-T3	SI.DIODE		
△ D2523	1SS81-T2	SI.DIODE		
△ D2524	RU3AM-LFC4	SI.DIODE		
D2525	RGP10J(C1)-T3	SI.DIODE		
D2527	MA4082(M)-T2	ZENER DIODE		
△ D2528	MTZJ7.5S-T2	ZENER DIODE		
△ D2901	D3SBA60	DIODE BRIDGE		
D2903-04	RGP10J(C1)-T3	SI.DIODE		
D2905	RD12E(B2)-T2	ZENER DIODE		
△ D2932	S1NB20	BRIDGE DIODE		
D2935-36	MA165-T2	SI.DIODE		
D2937	RD12E(B3)-T2	ZENER DIODE		
△ D2941	RU4AM-C1	SI.DIODE		
△ D2942	RU4YX-C1	SI.DIODE		
△ D2943	RU4YX-C1	SI.DIODE		
△ D2944	MA4180(M)-T2	ZENER DIODE		
△ D2945	MA165-T2	SI.DIODE		
D2947	MA165-T2	SI.DIODE		
△ D2948	MTZJ7.5S-T2	ZENER DIODE		
TRANSISTOR				
Q2501	2SC4212-C1	SI.TRANSISTOR		
△ Q2511	2SD2348-LB	SI.TRANSISTOR		
△ Q2901	2SA933S(QR)-T	SI.TRANSISTOR		
Q2921	2SC1815(Y)-T	SI.TRANSISTOR		
△ Q2922	2SA949(Y)C1	SI.TRANSISTOR		



△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S I S T O R				
△ Q2923	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2924	SF0R3B42(C1)-T	S C R		
△ Q2925	2SC1815(Y)-T	SI. TRANSISTOR		
△ Q2926	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2927	2SC2785(JH)-T	SI. TRANSISTOR		
I C				
△ IC2401	AN78L09-Y	IC		
△ IC2421	LA7845	I C		
△ IC2901	STR-S6301	I.C(HYBRID)		
△ IC2921	SE135N	I.C(HYBRID)		
O T H E R S				
△ F2901	QMF0007-6R3J1	FUSE	6.3A/125V	
K2401	CE41169-002J2	BEADS CORE		
K2901	CE41433-001Z	BEADS CORE		
K2902	CE42050-001Z	CORE		
K2931-33	CE42050-001Z	CORE		
△ LF2901	CELF005-001J2	LINE FILTER		
△ LF2902	CELF004-001J1	LINE FILTER		
△ PC2901	TLP621(GB)	I.C(PH COUPLER)		
△ RY2901	CESK023-001	RELAY		
S2401	QSL6A13-C01	LEVER SWITCH	V. CENTER	
TH2401	CEKN007-332Z	N.THERMISTOR		
△ TH2901	CEKP001-001J1	P.THERMISTOR		
△ VA2901	ERZ-C10VK361G	VARISTOR		

### POWER DEF PW BOARD ASS'Y [SGM-2501A-H2 (AV-27BP5(CA))]

Regarding the parts list for the power def PW board Ass'y [SGM-2501A-H2] of the model for canada, only the different parts from those of the model [SGM-2001A-H2] are described. For further details regarding the other parts, refer to the parts list of the model [SGM-2001A-H2] described on page 4-16 through page 4-18.

△	SYMBOL No.	PART No.		PARTS NAME	REMARKS
		America Model [US] SGM-2001A-H2	Canada Model [CA] SGM-2501A-H2		
△	R2901	QRC121K-275UZ	QRC121K-275EZ	COMP R	
	K2902	CE42050-001Z	CE41433-001Z	CORE	
△	LF2901	CELF005-001J2	CE41506-00BJ1	LINE FILTER	

## CRT SOCKET PW BOARD ASS'Y [SGM-3001A-H2 (AV-27BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
R E S I S T O R				
R3310-12	QRG029J-153	OM R	15k $\Omega$ 2W J	
R3313-15	QRG029J-183	OM R	18k $\Omega$ 2W J	
△ R3322	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3323	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3324	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3361	QRC121K-105Z	COMP.R	1M $\Omega$ 1/2W K	
C A P A C I T O R				
△ C3321	QETC2EM-105Z	E CAP.	1 $\mu$ F 250V M	
△ C3361	QETC2EM-105Z	E CAP.	1 $\mu$ F 250V M	
C3363	QCZ0121-102A	C CAP.	1000 p F 3000V Z	
C O I L				
L3301-03	CELP055-180Z	PEAKING COIL	18 $\mu$ H	
L3304-06	CELP055-470Z	PEAKING COIL	47 $\mu$ H	
D I O D E				
D3301-03	MA165-T2	SI.DIODE		
D3304-06	1SS244-T2	SI.DIODE		
D3313-15	MA165-T2	SI.DIODE		
D3361	RM2C-LFA1	SI.DIODE		
T R A N S I S T O R				
Q3301-03	2SC4502-T	SI.TRANSISTOR		
Q3304-06	2SC4544-C1	SI.TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
△ Q3310	2SC3334-T	SI TRANSISTOR		
△ Q3311	2SC3334-T	SI TRANSISTOR		
△ Q3312	2SC3334-T	SI TRANSISTOR		
Q3313-15	2SC2458(GR)-T	TRANSISTOR		
Q3316	2SA1048(GR)-T	TRANSISTOR		
O T H E R S				
△ SK3001	CE42446-001	CRT SOCKET		

## CONTROL PW BOARD ASS'Y [SGM-4001A-H2 (AV-27BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D4715	GL2PR6	L.E.D.(RED)		
I C				
IC4841	GP1U781Q	IFR DETECT UNIT		
O T H E R S				
	CM46978-A01-H	LED HOLDER		
S4702	QSP1A11-C19Z	PUSH SWITCH	CH UP	
S4703	QSP1A11-C19Z	PUSH SWITCH	CH DOWN	
S4704	QSP1A11-C19Z	PUSH SWITCH	FUNCTION	
S4705	QSP1A11-C19Z	PUSH SWITCH	VOL UP	
S4706	QSP1A11-C19Z	PUSH SWITCH	VOL DOWN	
S4707	QSP1A11-C19Z	PUSH SWITCH	POWER	

## AV TERMINAL PW BOARD ASS'Y [SGM-8001A-H2 (AV-27BP5)]

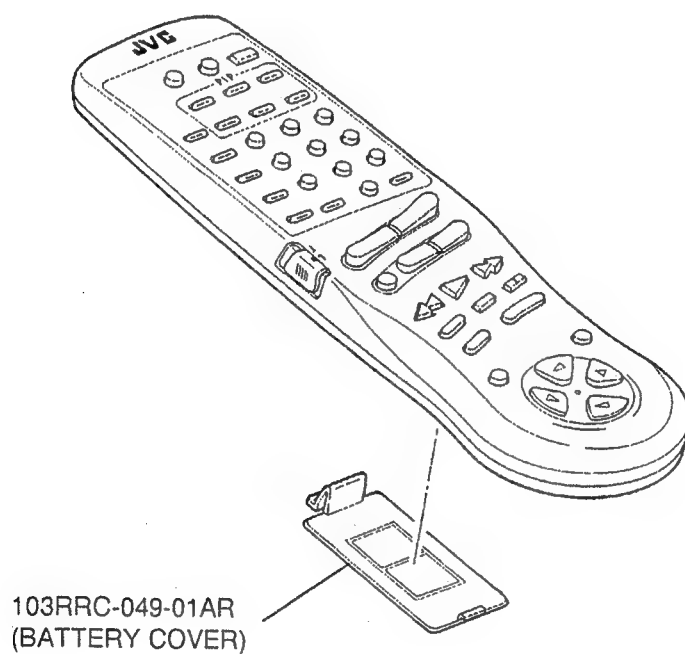
△ Symbol No.	Part No.	Part Name	Description	Local
R E S I S T O R				
R8105	QRD123J-221SX	C R	220 Ω 1/2W	J
R8108	QRD123J-221SX	C R	220 Ω 1/2W	J
R8109	QRD123J-222SX	C R	2.2k Ω 1/2W	J
R8251	QRD123J-103SX	C R	10k Ω 1/2W	J
R8252	QRD123J-682SX	C R	6.8k Ω 1/2W	J
R8607-08	QRD123J-102SX	C R	1k Ω 1/2W	J
C A P A C I T O R				
C8101	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C8102-04	QEK1CM-106GMZ	E CAP.	10 μ F 16V	M
C8106-07	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C8109-10	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C8118	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C8119	QEK1CM-226GMZ	E CAP.	22 μ F 16V	M
C8120	QEK1CM-107MZ	E CAP.	100 μ F 16V	M
C8121	QEPC1CM-106MZ	BP E CAP.	10 μ F 16V	M
C8122	QEK1CM-107MZ	E CAP.	100 μ F 16V	M
C8124	QEK1CM-107MZ	E CAP.	100 μ F 16V	M
C8125	QEU61AM-108MZ	E CAP.	1000 μ F 10V	M
C8201	NCT03CH-120AY	CHIP CAP.	12 p F 1600V	H
C8219	QEN61CM-336Z	BP E CAP.	33 μ F 16V	M
C8231	QEK1CM-476MZ	E CAP.	47 μ F 16V	M
C8233	NCT03CH-180AY	CHIP CAP.	18 p F 1600V	H
C8234	QEPC1CM-106MZ	BP E CAP.	10 μ F 16V	M
C8601-04	QEK1HM-105GMZ	E CAP.	1 μ F 50V	M
C8605-08	NCT03CH-101AY	CHIP CAP.	100 p F 1600V	H
C8609-10	NCT03CH-271AY	CHIP CAP.	270 p F 1600V	H
C8612-13	QEPC1EM-335MZ	BP E CAP.	3.3 μ F 25V	M
C8614-16	QEK1HM-105GMZ	E CAP.	1 μ F 50V	M
C8618	QEK1HM-105GMZ	E CAP.	1 μ F 50V	M
C8621	QEK1CM-107MZ	E CAP.	100 μ F 16V	M
C8622	QEK1CM-106GMZ	E CAP.	10 μ F 16V	M
C8630-31	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C8632	QEK1CM-476MZ	E CAP.	47 μ F 16V	M
C O I L				
L8201	CELP055-220Z	PEAKING COIL	22 μ H	
L8210	CELP008-820YL	CHIP P COIL		
D I O D E				
D8101-04	MA3120-W	ZENER DIODE		
D8106	MA3120-W	ZENER DIODE		
D8601-04	MA3120-W	ZENER DIODE		
D8605-09	MA151K-W	SI. DIODE		
D8620-23	MA3068(M)-W	ZENER DIODE		
D8630-33	MA3068(M)-W	ZENER DIODE		
D8640-43	MA3068(M)-W	ZENER DIODE		
T R A N S I S T O R				
Q8101-03	2SA1022(BC)-W	SI. TRANSISTOR		
Q8201	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8216	2SC2778(BC)-W	SI. TRANSISTOR		
Q8601-02	DTC363TK-W	DIGI. TRANSISTOR		
Q8603	DTA144TK-W	DIGI. TRANSISTOR		
Q8604-05	DTC363TK-W	DIGI. TRANSISTOR		
Q8606	DTA144TK-W	DIGI. TRANSISTOR		
Q8607	2SC2778(BC)-W	SI. TRANSISTOR		
Q8608	2SA1022(BC)-W	SI. TRANSISTOR		
I C				
IC8101	CXA1545AS	I.C(MONO-ANA)		
IC8102	AN78L09-Y	IC		

△ Symbol No.	Part No.	Part Name	Description	Local
△ O T H E R S				
	CM22763-C02-VH	TERMINAL BOARD		
	SBSB3010M	TAPPING SCREW	×5	
CN8003	CHA401N-35R-J	HQF SOCKET		
J8801	CEMN057-001	PIN JACK		
J8802	AX49607-024	MINI JACK		
J8803	CEMN045-001	PIN JACK		
J8804	QMCC008-C01	DIN JACK		
J8805-06	CEMN073-001	PIN JACK		
J8807-08	AX49607-020	MINI JACK		
J8809	CEMT016-001	TERMINAL		
S8801	QSS1F23-C06	SLIDE SWITCH	MAIN/SURROUND1&2	

PIP MODULE PW BOARD ASS'Y [SGM-P001A-H2 (AV-27BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
	SGM-P001A-H2	PIP MODULE		

REMOTE CONTROL UNIT [RM-C723-01-A (AV-27BP5)]



## MAIN PW BOARD ASS'Y [SGM-1004A-H2 (AV-31BP5) / SGM-1003A-H2 (AV-31BM5)]

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1131	QVPE611-102HZ	V R(DET.OUT LEVEL)	1k $\Omega$ B	
R1142	QVPE611-103HZ	V R(NOISE)	10k $\Omega$ B	
RESISTOR				
R1001	QRD149J-150S	C R	15 $\Omega$ 1/4W J	
R1155	NRVA02D-1502NY	CHIP MF R	15k $\Omega$ 1/10W $\pm 0.5\%$	
R1156	NRVA02D-1501NY	CHIP MF R	1.5k $\Omega$ 1/10W $\pm 0.5\%$	
R1601	QRD149J-100S	C R	10 $\Omega$ 1/4W J	
R1659	QRD149J-2R2S	C R	2.2 $\Omega$ 1/4W J	
R1661	QRD149J-2R2S	C R	2.2 $\Omega$ 1/4W J	
R1792	QRD123J-101SX	C R	100 $\Omega$ 1/2W J	
R1806	NRVA02D-1502NY	CHIP MF R	15k $\Omega$ 1/10W $\pm 0.5\%$	
△ R1985	QRG039J-100A	OM R	10 $\Omega$ 3W J	
CAPACITOR				
C1005	QFLC1HK-103MZ	M CAP.	0.01 $\mu$ F 50V K	
C1009-12	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1014	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1053	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1101	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1104	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1108	QFV41HJ-224M	TF CAP.	0.22 $\mu$ F 50V J	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1113	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1119	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V Z	
C1125	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	
C1127	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1128	NCT03CH-820AY	CHIP CAP.	82 pF 1600V H	
C1133	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1139	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1140	NCT03CH-101AY	CHIP CAP.	100 pF 1600V H	
C1141	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V K	
C1142	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1143	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1144	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V M	
C1145	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	
C1146-47	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1153	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C1154	QEN61HM-105Z	BP E CAP.	1 $\mu$ F 50V M	
C1155	QEN61HM-475Z	BP E CAP.	4.7 $\mu$ F 50V M	
C1156	QEN61CM-106Z	BP E CAP.	10 $\mu$ F 16V M	
C1157	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V M	
C1158	QFLC1HK-473MZ	M CAP.	0.047 $\mu$ F 50V K	
C1160	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C1164	QEE61CK-335BZ	TAN.CAP.	3.3 $\mu$ F 16V K	
C1165	QEE61CK-106BZ	TAN.CAP.	10 $\mu$ F 16V K	
C1167-68	QEN61CM-106Z	BP E CAP.	10 $\mu$ F 16V M	
C1201	NCT03CH-470AY	CHIP CAP.	47 pF 1600V H	
C1202	QEN61CM-226Z	BP E CAP.	22 $\mu$ F 16V M	
C1241	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
C1271	QEN61HM-475Z	BP E CAP.	4.7 $\mu$ F 50V M	
C1273	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	
C1274	QEN61HM-474Z	BP E CAP.	0.47 $\mu$ F 50V M	
C1275	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1277	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1278	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V J	
C1331	NCT03CH-680AY	CHIP CAP.	68 pF 1600V H	
C1332	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1333	NCT03CH-8R0AY	CHIP CAP.	8 pF 1600V H	
C1334	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	



△ Symbol No.	Part No.	Part Name	Description	Local
<b>C A P A C I T O R</b>				
C1335	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1336	NCT03CH-121AY	CHIP CAP.	120 p F 1600V	H
C1337	NCT03CH-221AY	CHIP CAP.	220 p F 1600V	H
C1373	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1390	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V	Z
C1392	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1393	NCT03CH-150AY	CHIP CAP.	15 p F 1600V	H
C1398-99	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V	Z
C1451-52	QFV71HJ-224MZ	TF CAP.	0.22 $\mu$ F 50V	J
C1453	QFLC1HJ-223MZ	M CAP.	0.022 $\mu$ F 50V	J
C1562-63	QFLC1HJ-103MZ	M CAP.	0.01 $\mu$ F 50V	J
C1564	NCT03CH-120AY	CHIP CAP.	12 p F 1600V	H
C1566	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V	K
C1575	QFV71HJ-474MZ	TF CAP.	0.47 $\mu$ F 50V	J
C1577	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1578	NCS21HJ-271AY	CHIP C CAP.	270 p F 50V	J
C1602	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1604-05	QFN31HK-222ZJ1	M CAP.	2200 p F 50V	K
C1606	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1607	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1608-09	NCB21HK-682AY	CHIP CAP.	6800 p F 50V	K
C1610	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V	J
C1619-20	QEN61CM-226Z	BP E CAP.	22 $\mu$ F 16V	M
C1621	NCS21HJ-681AY	CHIP C CAP.	680 p F 50V	J
C1622	QFLC1HJ-823MZ	M CAP.	0.082 $\mu$ F 50V	J
C1652	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1654	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1662	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V	J
△ C1663	QETC1CM-108Z	E CAP.	1000 $\mu$ F 16V	M
C1664	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V	J
△ C1665	QETC1CM-108Z	E CAP.	1000 $\mu$ F 16V	M
△ C1669	QETB1VM-108	E CAP.	1000 $\mu$ F 35V	M
C1701	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V	M
C1702	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1704	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V	K
C1708	NCT03CH-180AY	CHIP CAP.	18 p F 1600V	H
C1709-11	NCT03CH-330AY	CHIP CAP.	33 p F 1600V	H
C1713-14	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1717	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V	K
C1721	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V	K
C1801-02	NCB21HK-332AY	CHIP CAP.	3300 p F 50V	K
C1803	NCB21HK-153AY	CHIP CAP.	0.015 $\mu$ F 50V	K
C1804	QEN61HM-105Z	BP E CAP.	1 $\mu$ F 50V	M
C1807	NCT03CH-470AY	CHIP CAP.	47 p F 1600V	H
C1808	NCB21HK-332AY	CHIP CAP.	3300 p F 50V	K
C1811	NCT03CH-101AY	CHIP CAP.	100 p F 1600V	H
C1813	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V	K
C1825-26	NCT03CH-330AY	CHIP CAP.	33 p F 1600V	H
C1827-29	NCT03CH-331AY	CHIP CAP.	330 p F 1600V	H
C1830	NCT03CH-101AY	CHIP CAP.	100 p F 1600V	H
C1831	NCB21HK-682AY	CHIP CAP.	6800 p F 50V	K
C1852	NCT03CH-8R0AY	CHIP CAP.	8 p F 1600V	H
C1984	QEH61CM-107MZ	E CAP.	100 $\mu$ F 16V	M
C1990	QETC1HM-108Z	E CAP.	1000 $\mu$ F 50V	M
<b>T R A N S F O R M E R</b>				
T1111	CE40123-501	AFC TRANSF		
T1115	CELT003-105	CW TRANSF		
T1116	CELT003-106	SIF TRANSF		
T1331	CE41301-001J1	BAND PASS FILTER		
T1801	CE42470-001	OSC COIL		
<b>C O I L</b>				
L1001	CELP055-150Z	PEAKING COIL	15 $\mu$ H	

△ Symbol No.	Part No.	Part Name	Description	Local
C O I L				
L1102	CE41131-R47Y	CHIP INDUCTOR		
L1105	CE41131-R47Y	CHIP INDUCTOR		
L1106	CE41131-R56Y	INDUCTOR		
L1109	CE41131-2R2Y	CHIP INDUCTOR		
L1121	CE41131-150Y	CHIP INDUCTOR		
L1201	CELP055-6R8Z	PEAKING COIL	6.8 $\mu$ H	
L1203	CELP055-470Z	PEAKING COIL	47 $\mu$ H	
L1331	CELP055-820Z	PEAKING COIL	82 $\mu$ H	
L1332	CELP055-3R9Z	PEAKING COIL	3.9 $\mu$ H	
L1701-02	CELP055-4R7Z	PEAKING COIL	4.7 $\mu$ H	
L1802	CELP055-2R2Z	PEAKING COIL	2.2 $\mu$ H	
D I O D E				
D1001	MA3330(L)-W	ZENER DIODE		
D1262	RD9.1ES(B2)-T2	ZENER DIODE		
D1265	M1MA151K-W	CHIP DIODE		
D1271	M1MA151K-W	CHIP DIODE		
D1281-82	MA3068(M)-W	ZENER DIODE		
D1331-32	M1MA151K-W	CHIP DIODE		
D1351-53	M1MA151K-W	CHIP DIODE		
D1354	MA165-T2	SI.DIODE		
D1355	MTZJ4.3(A)-T2	ZENER DIODE		
D1356	MA165-T2	SI.DIODE		
D1357	MTZJ4.3(A)-T2	ZENER DIODE		
D1358	MA165-T2	SI.DIODE		
D1359	MTZJ4.3(A)-T2	ZENER DIODE		
D1575-76	M1MA151K-W	CHIP DIODE		
D1651-52	RD33E(B1)-T2	ZENER DIODE		
D1701-02	MA3062(M)-W	ZENER DIODE		
D1703-04	M1MA151K-W	CHIP DIODE		
D1705-07	MA3068(M)-W	ZENER DIODE		
D1708-09	MA3062(M)-W	ZENER DIODE		
D1721	M1MA151K-W	CHIP DIODE		
D1723-24	M1MA151K-W	CHIP DIODE		
D1790-92	M1MA151K-W	CHIP DIODE		
D1797	MTZJ15(A)-T2	ZENER DIODE		
D1851-53	M1MA151K-W	CHIP DIODE		
D1871	MA152WK-W	DIODE		
D1872	M1MA151K-W	CHIP DIODE		
T R A N S I S T O R				
Q1101	2SC5083(L-P)-T	SI.TRANSISTOR		
Q1103	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1105	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1201	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1202	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1231-32	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1261	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1271	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1272	DTC323TK-W	DIGI.TRANSISTOR		
Q1331-34	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1351-53	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1374	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1375	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1385	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1386	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1443	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1561	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1562	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1575	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1576	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1651	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1681	DTA144TK-W	DIGI.TRANSISTOR		
Q1682-83	DTC323TK-W	DIGI.TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q1701	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1801	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1802-03	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1851	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1853-54	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1855	2SC3773(3-4)-W	SI. TRANSISTOR		
Q1856-58	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1871-76	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1877	2SC3773(3-4)-W	SI. TRANSISTOR		
I C				
IC1101	LA7577N	I.C(MONO-ANA)		
IC1151	ATT1852ACT	I C		
IC1191	AN78L09-Y	IC		
IC1201	JCC1003B	I.C(MONO-ANA)		
IC1601	ATT1853CT	IC		
△ IC1651	MC13516T2	I.C(MONO-ANA)		
IC1681	BA15218N	I.C.(M)		
IC1701	MN1876466JKN1	I C		
IC1702	AT24C08/31BP BM5	IC (SERVICE)		
IC1703	MN1280-Q	I.C(DIGI-MOS)		
IC1791	AN78L05-Y	I.C.		
IC1801	LC7458B-04	IC		
IC1802	LA7945N	I.C(MONO-ANA)		
IC1803	MN1280-Q	I.C(DIGI-MOS)		
IC1871	AN5860	I.C.(M)		
△ IC1981	LM2940CT-12	I.C(MONO-ANA)		
△ IC1982	KIA7809PI	I C		
IC1983	AN78L05-Y	I.C.		
OTHERS				
CF1002	FTP47.25MA	CERAMIC TRAP		
CF1102	CE41505-001	CERAMIC FILTER		
CF1106	SFSH4.5MCB	CERAMIC FILTER		
CF1701	CST8.00MT	CER. RESONATOR		
CF1801	CSA12.0MT-Z	C RESONATOR		
CN1003	CHA401N-35P-J	HQF PLUG		
K1702-05	CE42050-001Z	CORE		
K1801-04	CE42050-001Z	CORE		
K1871	CE41433-001Z	BEADS CORE		
SF1101	CE41031-202	SAW FILTER		
SF1102	CE42377-201	SAW FILTER		
X1391	CE41651-001Z	X-TAL		

DIFFERENCE LIST BETWEEN AV-31BP5 AND AV-31BM5 MODELS

△	SYMBOL No.	PART No.		PARTS NAME	REMARKS
		AV-31BP5 SGM-1004A-H2	AV-31BM5 SGM-1003A-H2		
	C1395-97	_____	QEN61CM-106Z	BP E CAP.	
	D1871	MA152WK-W	_____	DIODE	
	D1872	M1MA151K-W	_____	CHIP DIODE	
	Q1876	2SC2412K(QR)-W	_____	SI. TRANSISTOR	
	Q1877	2SC3773(3-4)-W	_____	SI. TRANSISTOR	
	IC1871	AN5860	_____	I. C	
	K1871	CE41433-001Z	_____	BEADS CORE	

**POWER / DEF PW BOARD ASS'Y [SGM-2004A-H2 (AV-31BP5) / SGM-2003A-H2 (AV-31BM5)]**

Regarding the POWER DEF PW Board Ass'y [SGM-2504A-H2 / SGM-2503A-H2] for the model for Canada, refer to page 4-29.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
R2410	QRX019J-R82S	MF R	0.82 Ω 1W	J
R2418	QRG019J-221S	OM R	220 Ω 1W	J
R2503	QRD123J-562SX	C R	5.6k Ω 1/2W	J
△ R2504	QRG039J-272A	OM R	2.7k Ω 3W	J
△ R2505	QRG039J-272A	OM R	2.7k Ω 3W	J
△ R2512	QRD121J-681SY	C R	680 Ω 1/2W	J
R2514	QRG039J-822A	OM R	8.2k Ω 3W	J
△ R2521	QRD149J-1R0S	C R	1 Ω 1/4W	J
△ R2522	QRX039J-3R3A	MF R	3.3 Ω 3W	J
△ R2523	QRD129J-4R7S	C R	4.7 Ω 1/2W	J
△ R2524	QRX039J-3R3A	MF R	3.3 Ω 3W	J
△ R2525	QRF074K-1R8	UNF R	1.8 Ω 7W	K
△ R2531	QRV141F-6201Y	MF R	6.2k Ω 1/4W	F
△ R2532	QRV141F-5101Y	MF R	5.1k Ω 1/4W	F
R2544	QRD123J-333SX	C R	33k Ω 1/2W	J
R2545	QRD123J-562SX	C R	5.6k Ω 1/2W	J
R2546	QRD123J-471S	C R	470 Ω 1/2W	J
R2547	QRG039J-330A	OM R	33 Ω 3W	J
△ R2901	QRC121K-275UZ	COMP.R	2.7M Ω 1/2W	K
△ R2905	QRF104K-1R0	UNF R	1 Ω 10W	K
R2909	QRD123J-274SX	C R	270k Ω 1/2W	J
R2911-12	QRX029J-R22A	MF R	0.22 Ω 2W	J
R2913-14	QRG039J-330	OM R	33 Ω 3W	J
R2915	QRG029J-330	OM R	33 Ω 2W	J
R2916	QRD123J-821SX	C R	820 Ω 1/2W	J
R2917	QRD123J-153SX	C R	15k Ω 1/2W	J
R2918	QRD123J-181SX	C R	180 Ω 1/2W	J
R2931	QRD123J-121SX	C R	120 Ω 1/2W	J
R2937	QRG019J-152S	OM R	1.5k Ω 1W	J
△ R2938	QRG019J-223S	OM R	22k Ω 1W	J
△ R2940	QRZ0095-R39	UNF R	0.39 Ω	
R2941	QRD123J-272SX	C R	2.7k Ω 1/2W	J
△ R2943	QRD123J-223SX	C R	22k Ω 1/2W	J
△ R2944	QRD161J-223Y	C R	22k Ω 1/6W	J
R2948	QRD123J-182SX	C R	1.8k Ω 1/2W	J
△ R2954	QRG029J-223	OM R	22k Ω 2W	J
<b>C A P A C I T O R</b>				
△ C2407	QETC1VM-107Z	E CAP.	100 μ F 35V	M
△ C2408	QETB1VM-108	E CAP.	1000 μ F 35V	M
C2410	QEM61EK-335MZ	E CAP.	3.3 μ F 25V	K
C2412	QFN32DJ-104J1	M CAP.	0.1 μ F 200V	J
C2417	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V	J
△ C2419	QETC1HM-476Z	E CAP.	47 μ F 50V	M
C2504	QETC2CM-105Z	E CAP.	1 μ F 160V	M
△ C2511	QFZ0117-3501S	MPP CAP.	3500 p F 1.4kVH ± 2.5%	
△ C2512	QFZ0117-6501S	MPP CAP.	6500 p F 1.4kVH ± 2.5%	
△ C2513	QFZ0117-7001S	MPP CAP.	7000 p F 1.4kVH ± 2.5%	
△ C2514	QFP32GJ-223M	PP CAP.	0.022 μ F 400V	J
△ C2516	QFZ0119-474S	MPP CAP.	0.47 μ F 200V ± 3%	
C2517	QETC2EM-225Z	E CAP.	2.2 μ F 250V	M
△ C2518	QCY32HK-561RZ	CH C CAP.	560 p F 500V	K
C2519-20	QEM61HK-475MZ	E CAP.	4.7 μ F 50V	K
△ C2521	QETB2EM-336	E CAP.	33 μ F 250V	M
△ C2522	QETB1VM-228	E CAP.	2200 μ F 35V	M
△ C2523	QETC1VM-107Z	E CAP.	100 μ F 35V	M
△ C2524	QETC1CM-477Z	E CAP.	470 μ F 16V	M
C2525	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
△ C2526	QETB2CM-227	E CAP.	220 μ F 160V	M
C2528	QFN32DJ-222J1	M CAP.	2200 p F 200V	J
△ C2901	QCZ9029-103M	C CAP.	0.01 μ FAC125V	M

△ Symbol No.	Part No.	Part Name	Description	Local
C A P A C I T O R				
△ C2902	QCZ9029-103M	C CAP.	0.01 $\mu$ FAC125V	M
△ C2903	QFZ9036-104M	M.F.CAP.	0.1 $\mu$ FAC250V	M
△ C2904	QFZ9036-104M	M.F.CAP.	0.1 $\mu$ FAC250V	M
△ C2911	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2912	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2913	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2914	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2915	QEZ0145-687R	E CAP.	680 $\mu$ F 200V	
C2918	QFZ0121-272S	MPP CAP.	2700 p F	
C2920	QFN32DK-333J1	M CAP.	0.033 $\mu$ F 200V	K
C2921	QFN31HJ-272ZJ1	M CAP.	2700 p F 50V	J
C2922	QEH2AM-107MZ	E CAP.	100 $\mu$ F 100V	M
C2923	QEH1HM-336MZ	E CAP.	33 $\mu$ F 50V	M
C2931	QETC1VM-477Z	E CAP.	470 $\mu$ F 35V	M
△ C2932	QEZ0179-337M	E CAP.	330 $\mu$ F 200V	
△ C2933	QETB1EM-228	E CAP.	2200 $\mu$ F 25V	M
△ C2934	QETB1VM-228	E CAP.	2200 $\mu$ F 35V	M
△ C2936	QETC1EM-477Z	E CAP.	470 $\mu$ F 25V	M
C2937	QCZ0132-152AZ	C CAP.	1500 p F 500V	K
△ C2940	QETC1CM-107Z	E CAP.	100 $\mu$ F 16V	M
C2945	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V	J
T R A N S F O R M E R				
T2501	CE42034-002J1	HOR DRIVE TRANS		
△ T2901	CE41741-001J1	POWER TRANSF		
△ T2902	CE42395-002J1	SW TRANSF		
C O I L				
△ L2501	CE40669-008J1	LINIARITY COIL		
△ L2502	CELC052-821J7	CHOKE COIL		
△ L2503	CELC901-054J6	COIL		
△ L2931	CELC901-050J6	HEATER CHOKE		
△ L2932	CELC901-050J6	HEATER CHOKE		
D I O D E				
△ D2401	1N4003-T3	SI.DIODE		
D2402	RD75E(B)-T5	ZENER DIODE		
D2403	MA4043(M)-T2	ZENER DIODE		
D2407	1SS133-T2	SI.DIODE		
△ D2501	ERD07-15-L	SI.DIODE		
△ D2502	RU30-C1	SI.DIODE		
D2505	RU2-T3	SI.DIODE		
△ D2521	RH1S-T3	SI.DIODE		
△ D2522	RGP10J(C1)-T3	SI.DIODE		
△ D2523	1SS81-T2	SI.DIODE		
△ D2524	RU3AM-LFC4	SI.DIODE		
△ D2525	RGP10J(C1)-T3	SI.DIODE		
D2527	MA4082(M)-T2	ZENER DIODE		
△ D2528	MTZJ7.5S-T2	ZENER DIODE		
D2541	1SS133-T2	SI.DIODE		
△ D2901	D3SBA60	DIODE BRIDGE		
D2903-04	RGP10J(C1)-T3	SI.DIODE		
D2905	RD12E(B2)-T2	ZENER DIODE		
△ D2932	S1NB20	BRIDGE DIODE		
D2935-36	1SS133-T2	SI.DIODE		
D2937	RD12E(B3)-T2	ZENER DIODE		
△ D2941	RU4AM-C1	SI.DIODE		
△ D2942	RU4YX-C1	SI.DIODE		
△ D2943	RU4YX-C1	SI.DIODE		
△ D2944	MA4180(M)-T2	ZENER DIODE		
△ D2945	MA165-T2	SI.DIODE		
D2947	1SS133-T2	SI.DIODE		
△ D2948	MTZJ7.5S-T2	ZENER DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S I S T O R				
Q2501	2SC4212-C1	SI. TRANSISTOR		
△ Q2511	2SD2348-LB	SI. TRANSISTOR		
Q2541	2SA1309A(QR)-T	SI. TRANSISTOR		
Q2542	2SD1408(OY)-LB	POWER TRANSISTOR		
Q2543	2SA1309A(QR)-T	SI. TRANSISTOR		
△ Q2901	2SA933S(QR)-T	SI. TRANSISTOR		
Q2921	2SC1815(Y)-T	SI. TRANSISTOR		
△ Q2922	2SA949(Y)C1	SI. TRANSISTOR		
△ Q2923	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2924	SF0R3B42(C1)-T	S C R		
△ Q2925	2SC1815(Y)-T	SI. TRANSISTOR		
Q2926	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2927	2SC2785(JH)-T	SI. TRANSISTOR		
I C				
△ IC2401	AN78L09-Y	IC		
△ IC2421	LA7845	I C		
△ IC2901	STR-S6301	I.C(HYBRID)		
△ IC2921	SE135N	I.C(HYBRID)		
O T H E R S				
△ F2901	QMF0007-6R3J1	FUSE	6.3A/125V	
H2004	CM42862-00G-H	HEAT SINK ASSY		
K2401	CE41169-002J2	BEADS CORE		
K2901	CE41433-001Z	BEADS CORE		
K2902	CE42050-001Z	CORE		
K2931-33	CE42050-001Z	CORE		
△ LF2901	CELF005-001J2	LINE FILTER		
△ LF2902	CELF004-001J1	LINE FILTER		
△ PC2901	TLP621(GB)	I.C(PH COUPLER)		
△ RY2901	CESK023-001	RELAY		
S2401	QSL6A13-C01	LEVER SWITCH	V. CENTER	
TH2401	CEKN007-332Z	N.THERMISTOR		
△ TH2901	CEKP001-001J1	P.THERMISTOR		
△ VA2901	ERZ-C10VK361G	VARISTOR		

# POWER / DEF PW BOARD ASS'Y

## [SGM-2504A-H2 (AV-31BP5) / SGM-2503A-H2 (AV-31BM5), (CA) ]

Regarding the parts list for the power def PW board Ass'y [SGM-2504A-H2 / SGM-2503A-H2] of the model for Canada, only the different parts from those of the model [SGM-2004A-H2 / SGM-2003A-H2] are described. For further details regarding the other parts, refer to the parts list of the model [SGM-2004A-H2 / SGM-2003A-H2] described on page 4-27 through page 4-29.

△	SYMBOL No.	PART No.		PARTS NAME	REMARKS
		America Model [US] SGM-2004A-H2 SGM-2003A-H2	Canada Model [CA] SGM-2504A-H2 SGM-2503A-H2		
△	R2901	QRC121K-275UZ	QRC121K-275EZ	COMP R	
△	C2905	_____	QFZ9036-104M	MF R	
	K2902	CE42050-001Z	BUS WIRE	CORE	
△	LF2901	CELF005-001J2	CE41506-00BJ1	LINE FILTER	
△	LF2903	_____	CE41506-00BJ1	LINE FILTER	



CRT SOCKET PW BOARD ASS'Y [SGM-3003A-H2 (AV-31BP5 / AV-31BM5)]

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R3310-12	QRG029J-153	OM R	15k $\Omega$ 2W J	
R3313-15	QRG029J-183	OM R	18k $\Omega$ 2W J	
△ R3322	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3323	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3324	QRD149J-102S	C R	1k $\Omega$ 1/4W J	
△ R3361	QRC121K-105Z	COMP.R	1M $\Omega$ 1/2W K	
CAPACITOR				
△ C3321	QETC2EM-105Z	E CAP.	1 $\mu$ F 250V M	
△ C3361	QETC2EM-105Z	E CAP.	1 $\mu$ F 250V M	
C3363	QCZ0121-102A	C CAP.	1000 p F 3000V Z	
COIL				
L3301-03	CELP055-180Z	PEAKING COIL	18 $\mu$ H	
L3304-06	CELP055-470Z	PEAKING COIL	47 $\mu$ H	
DIODE				
D3301-03	MA165-T2	SI.DIODE		
D3304-06	1SS244-T2	SI.DIODE		
D3313-15	MA165-T2	SI.DIODE		
D3361	RM2C-LFA1	SI.DIODE		
TRANSISTOR				
Q3301-03	2SC4502-T	SI.TRANSISTOR		
Q3304-06	2SC4544-C1	SI.TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
△ Q3310	2SC3334-T	SI TRANSISTOR		
△ Q3311	2SC3334-T	SI TRANSISTOR		
△ Q3312	2SC3334-T	SI TRANSISTOR		
Q3313-15	2SC2458(GR)-T	TRANSISTOR		
Q3316	2SA1048(GR)-T	TRANSISTOR		
OTHERS				
△ SK3001	CE42446-001	CRT SOCKET		

CONTROL PW BOARD ASS'Y [SGM-4001A-H2 (AV-31BP5 / AV-31BM5)]

△ Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D4715	GL2PR6	L.E.D.(RED)		
IC				
IC4841	GP1U781Q	IFR DETECT UNIT		
OTHERS				
S4702	CM46978-A01-H	LED HOLDER		
S4703	QSP1A11-C19Z	PUSH SWITCH	CH UP	
S4704	QSP1A11-C19Z	PUSH SWITCH	CH DOWN	
S4704	QSP1A11-C19Z	PUSH SWITCH	FUNCTION	
S4705	QSP1A11-C19Z	PUSH SWITCH	VOL UP	
S4706	QSP1A11-C19Z	PUSH SWITCH	VOL DOWN	
S4707	QSP1A11-C19Z	PUSH SWITCH	POWER	

## AV TERMINAL PW BOARD ASS'Y

[SGM-8001A-H2 (AV-31BP5) / SGM-8003A-H2 (AV-31BM5)]

△ Symbol No.	Part No.	Part Name	Description	Local
R E S I S T O R				
R8105	QRD123J-221SX	C R	220 Ω 1/2W J	
R8108	QRD123J-221SX	C R	220 Ω 1/2W J	
R8109	QRD123J-222SX	C R	2.2k Ω 1/2W J	
R8251	QRD123J-103SX	C R	10k Ω 1/2W J	
R8252	QRD123J-682SX	C R	6.8k Ω 1/2W J	
R8607-08	QRD123J-102SX	C R	1k Ω 1/2W J	
C A P A C I T O R				
C8101	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V K	
C8102-04	QEK1CM-106GMZ	E CAP.	10 μ F 16V M	
C8106-07	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	
C8109-10	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	
C8118	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	
C8119	QEK1CM-226GMZ	E CAP.	22 μ F 16V M	
C8120	QEK1CM-107MZ	E CAP.	100 μ F 16V M	
C8121	QEPC1CM-106MZ	BP E CAP.	10 μ F 16V M	
C8122	QEK1CM-107MZ	E CAP.	100 μ F 16V M	
C8124	QEK1CM-107MZ	E CAP.	100 μ F 16V M	
C8125	QEU61AM-108MZ	E CAP.	1000 μ F 10V M	
C8201	NCT03CH-120AY	CHIP CAP.	12 p F 1600V H	
C8219	QEN61CM-336Z	BP E CAP.	33 μ F 16V M	
C8231	QEK1CM-476MZ	E CAP.	47 μ F 16V M	
C8233	NCT03CH-180AY	CHIP CAP.	18 p F 1600V H	
C8234	QEPC1CM-106MZ	BP E CAP.	10 μ F 16V M	
C8601-04	QEK1HM-105GMZ	E CAP.	1 μ F 50V M	
C8605-08	NCT03CH-101AY	CHIP CAP.	100 p F 1600V H	
C8609-10	NCT03CH-271AY	CHIP CAP.	270 p F 1600V H	
C8612-13	QEPC1EM-335MZ	BP E CAP.	3.3 μ F 25V M	
C8614-16	QEK1HM-105GMZ	E CAP.	1 μ F 50V M	
C8618	QEK1HM-105GMZ	E CAP.	1 μ F 50V M	
C8621	QEK1CM-107MZ	E CAP.	100 μ F 16V M	
C8622	QEK1CM-106GMZ	E CAP.	10 μ F 16V M	
C8630-31	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	
C8632	QEK1CM-476MZ	E CAP.	47 μ F 16V M	
C O I L				
L8201	CELP055-220Z	PEAKING COIL	22 μ H	
L8210	CELP008-820YL	CHIP P COIL		
D I O D E				
D8101-04	MA3120-W	ZENER DIODE		
D8106	MA3120-W	ZENER DIODE		
D8601-04	MA3120-W	ZENER DIODE		
D8605-09	M1MA151K-W	CHIP DIODE		
D8620-23	MA3068(M)-W	ZENER DIODE		
D8630-33	MA3068(M)-W	ZENER DIODE		
D8640-43	MA3068(M)-W	ZENER DIODE		
T R A N S I S T O R				
Q8101-03	2SA1037K(QR)-W	SI. TRANSISTOR		
Q8201	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8216	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8601-02	DTC363TK-W	DIGI. TRANSISTOR		
Q8603	DTA144TK-W	DIGI. TRANSISTOR		
Q8604-05	DTC363TK-W	DIGI. TRANSISTOR		
Q8606	DTA144TK-W	DIGI. TRANSISTOR		
Q8607	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8608	2SA1037K(QR)-W	SI. TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
I C				
IC8101	CXA1545AS	I.C(MONO-ANA)		
IC8102	AN78L09-Y	IC		
O T H E R S				
△	CM22763-C02-VH	TERMINAL BOARD		
	SBSB3010M	TAPPING SCREW	× 5	
CN8003	CHA401N-35R-J	HQF SOCKET		
J8801	CEMN057-001	PIN JACK		
J8802	AX49607-024	MINI JACK		
J8803	CEMN045-001	PIN JACK		
J8804	QMCC008-C01	DIN JACK		
J8805-06	CEMN073-001	PIN JACK		
J8807-08	AX49607-020	MINI JACK		
J8809	CEMT016-001	TERMINAL		
S8801	QSS1F23-C06	SLIDE SWITCH	MAIN/SURROUND1&2	

DIFFERENCE LIST BETWEEN AV-31BP5 AND AV-31BM5 MODELS

△	SYMBOL No.	PART No.		PARTS NAME	REMARKS
		AV-31BP5 SGM-8001A-H2	AV-31BM5 SGM-8003A-H2		
	C8614-15	QEKC1HM-105GMZ	_____	E CAP.	
	D8605-06	M1MA161K-W	_____	CHIP DIODE	
	D8640-43	MA3068(M)-W	_____	ZENER DIODE	
	Q8101	2SA1037K(QR)-W	_____	SI. TRANSISTOR	
	Q8601-02	DTC363TK-W	_____	DIGI. TRANSISTOR	
	Q8603	DTA144TK-W	_____	DIGI. TRANSISTOR	
	J8802	AX49607-024	_____	MINI JACK	
△		CM22763-C02-VH	CM22763-C03-VH	TERMINAL BOARD	

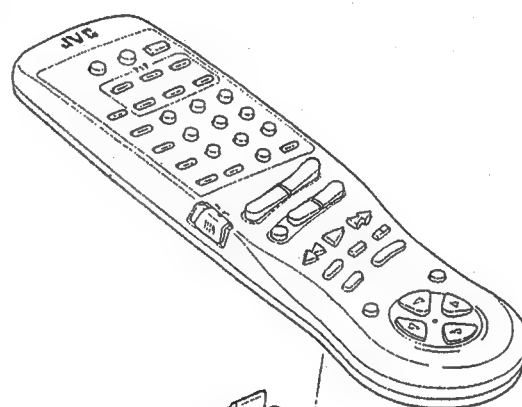
# PIP MODULE PW BOARD ASS'Y [SGM-P001A-H2 (ONLY AV-31BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
	SGM-P001A-H2	PIP MODULE		

## REMOTE CONTROL UNIT

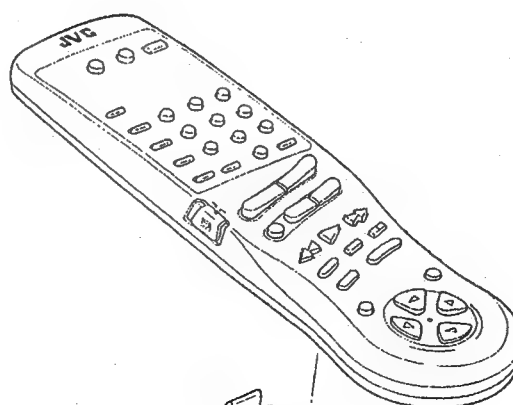
[RM-C723-01-A (AV-31BP5) / RM-C722-01-A (AV-31BM5)]

RM-C723-01-A



103RRC-049-01AR  
(BATTERY COVER)

RM-C722-01-A



103RRC-049-01AR  
(BATTERY COVER)

## MAIN PW BOARD ASS'Y [SGM-1006A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R1131	QVPE611-102HZ	V R(DET.OUT LEVEL)	1k $\Omega$ B	
R1142	QVPE611-103HZ	V R(NOISE)	10k $\Omega$ B	
RESISTOR				
R1001	QRD149J-150S	C R	15 $\Omega$ 1/4W J	
R1155	NRVA02D-1502NY	CHIP MF R	15k $\Omega$ 1/10W $\pm 0.5\%$	
R1156	NRVA02D-1501NY	CHIP MF R	1.5k $\Omega$ 1/10W $\pm 0.5\%$	
R1601	QRD149J-100S	C R	10 $\Omega$ 1/4W J	
R1659	QRD149J-2R2S	C R	2.2 $\Omega$ 1/4W J	
R1661	QRD149J-2R2S	C R	2.2 $\Omega$ 1/4W J	
R1792	QRD123J-101SX	C R	100 $\Omega$ 1/2W J	
R1806	NRVA02D-1502NY	CHIP MF R	15k $\Omega$ 1/10W $\pm 0.5\%$	
△ R1985	QRG039J-100A	OM R	10 $\Omega$ 3W J	
CAPACITOR				
C1005	QFLC1HK-103MZ	M CAP.	0.01 $\mu$ F 50V K	
C1009-12	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1014	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1053	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1101	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1104	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1108	QFV41HJ-224M	TF CAP.	0.22 $\mu$ F 50V J	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1113	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1119	NCF21HZ-104AY	CHIP C CAP.	0.1 $\mu$ F 50V Z	
C1125	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	
C1127	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1128	NCT03CH-820AY	CHIP CAP.	82 pF 1600V H	
C1133	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1139	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1140	NCT03CH-101AY	CHIP CAP.	100 pF 1600V H	
C1141	NCB21EK-683AY	CHIP CAP.	0.068 $\mu$ F 25V K	
C1142	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1143	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1144	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V M	
C1145	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	
C1146-47	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C1153	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C1154	QEN61HM-105Z	BP E CAP.	1 $\mu$ F 50V M	
C1155	QEN61HM-475Z	BP E CAP.	4.7 $\mu$ F 50V M	
C1156	QEN61CM-106Z	BP E CAP.	10 $\mu$ F 16V M	
C1157	QEB61HM-104MZ	E CAP.	0.1 $\mu$ F 50V M	
C1158	QFLC1HK-473MZ	M CAP.	0.047 $\mu$ F 50V K	
C1160	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C1164	QEE61CK-335BZ	TAN.CAP.	3.3 $\mu$ F 16V K	
C1165	QEE61CK-106BZ	TAN.CAP.	10 $\mu$ F 16V K	
C1167-68	QEN61CM-106Z	BP E CAP.	10 $\mu$ F 16V M	
C1201	NCT03CH-470AY	CHIP CAP.	47 pF 1600V H	
C1202	QEN61CM-226Z	BP E CAP.	22 $\mu$ F 16V M	
C1203	NCT03CH-2R0AY	CHIP CAP.	2 pF 1600V H	
C1204	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	
C1205	NCT03CH-101AY	CHIP CAP.	100 pF 1600V H	
C1241	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	
C1271	QEN61HM-475Z	BP E CAP.	4.7 $\mu$ F 50V M	
C1273	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	
C1274	QEN61HM-474Z	BP E CAP.	0.47 $\mu$ F 50V M	
C1275	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C1277	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	
C1278	NCS21HJ-221AY	CHIP C CAP.	220 pF 50V J	
C1331	NCT03CH-680AY	CHIP CAP.	68 pF 1600V H	

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C1332	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1333	NCT03CH-8R0AY	CHIP CAP.	8 p F 1600V	H
C1334	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1335	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1336	NCT03CH-121AY	CHIP CAP.	120 p F 1600V	H
C1337	NCT03CH-221AY	CHIP CAP.	220 p F 1600V	H
C1373	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1390	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C1392	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1393	NCT03CH-150AY	CHIP CAP.	15 p F 1600V	H
C1398-99	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C1451-52	QFV71HJ-224MZ	TF CAP.	0.22 μ F 50V	J
C1453	QFLC1HJ-223MZ	M CAP.	0.022 μ F 50V	J
C1471	NCT03CH-271AY	CHIP CAP.	270 p F 1600V	H
C1472	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1473	NCF21HZ-104AY	CHIP C CAP.	0.1 μ F 50V	Z
C1474	NCT03CH-151AY	CHIP CAP.	150 p F 1600V	H
C1475	QEN61CM-106Z	BP E CAP.	10 μ F 16V	M
C1476	NCT03CH-271AY	CHIP CAP.	270 p F 1600V	H
C1477	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1562-63	QFLC1HJ-103MZ	M CAP.	0.01 μ F 50V	J
C1564	NCT03CH-120AY	CHIP CAP.	12 p F 1600V	H
C1566	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1575	QFV71HJ-474MZ	TF CAP.	0.47 μ F 50V	J
C1577	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1578	NCS21HJ-271AY	CHIP C CAP.	270 p F 50V	J
C1602	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1604-05	QFN31HK-222ZJ1	M CAP.	2200 p F 50V	K
C1606	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1607	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1608-09	NCB21HK-682AY	CHIP CAP.	6800 p F 50V	K
C1610	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
C1619-20	QEN61CM-226Z	BP E CAP.	22 μ F 16V	M
C1621	NCS21HJ-681AY	CHIP C CAP.	680 p F 50V	J
C1622	QFLC1HJ-823MZ	M CAP.	0.082 μ F 50V	J
C1652	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1654	NCS21HJ-221AY	CHIP C CAP.	220 p F 50V	J
C1662	QFV71HJ-124MZ	TF CAP.	0.12 μ F 50V	J
△ C1663	QETC1CM-108Z	E CAP.	1000 μ F 16V	M
C1664	QFV71HJ-124MZ	TF CAP.	0.12 μ F 50V	J
△ C1665	QETC1CM-108Z	E CAP.	1000 μ F 16V	M
△ C1669	QETB1VM-108	E CAP.	1000 μ F 35V	M
C1701	QEB61HM-104MZ	E CAP.	0.1 μ F 50V	M
C1702	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1704	NCB21EK-683AY	CHIP CAP.	0.068 μ F 25V	K
C1708	NCT03CH-180AY	CHIP CAP.	18 p F 1600V	H
C1709-11	NCT03CH-330AY	CHIP CAP.	33 p F 1600V	H
C1713-14	NCB21HK-102AY	CHIP CAP.	1000 p F 50V	K
C1717	NCB21EK-683AY	CHIP CAP.	0.068 μ F 25V	K
C1721	NCB21HK-223AY	CHIP CAP.	0.022 μ F 50V	K
C1801-02	NCB21HK-332AY	CHIP CAP.	3300 p F 50V	K
C1803	NCB21HK-153AY	CHIP CAP.	0.015 μ F 50V	K
C1804	QEN61HM-105Z	BP E CAP.	1 μ F 50V	M
C1807	NCT03CH-470AY	CHIP CAP.	47 p F 1600V	H
C1808	NCB21HK-332AY	CHIP CAP.	3300 p F 50V	K
C1811	NCT03CH-101AY	CHIP CAP.	100 p F 1600V	H
C1813	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V	K
C1825-26	NCT03CH-330AY	CHIP CAP.	33 p F 1600V	H
C1827-29	NCT03CH-331AY	CHIP CAP.	330 p F 1600V	H
C1830	NCT03CH-101AY	CHIP CAP.	100 p F 1600V	H
C1831	NCB21HK-682AY	CHIP CAP.	6800 p F 50V	K
C1852	NCT03CH-8R0AY	CHIP CAP.	8 p F 1600V	H
C1984	QEH1CM-107MZ	E CAP.	100 μ F 16V	M
C1990	QETC1HM-108Z	E CAP.	1000 μ F 50V	M



△ Symbol No.	Part No.	Part Name	Description	Local
TRANSFORMER				
T1111	CE40123-501	AFC TRANSF		
T1115	CELT003-105	CW TRANSF		
T1116	CELT003-106	SIF TRANSF		
T1331	CE41301-001J1	BAND PASS FILTER		
T1801	CE42470-001	OSC COIL		
COIL				
L1001	CELP055-150Z	PEAKING COIL	15 $\mu$ H	
L1102	CE41131-R47Y	CHIP INDUCTOR		
L1105	CE41131-R47Y	CHIP INDUCTOR		
L1106	CE41131-R56Y	INDUCTOR		
L1109	CE41131-2R2Y	CHIP INDUCTOR		
L1121	CE41131-150Y	CHIP INDUCTOR		
L1201	CELP055-6R8Z	PEAKING COIL	6.8 $\mu$ H	
L1202	CELP055-820Z	PEAKING COIL	82 $\mu$ H	
L1203	CELP055-470Z	PEAKING COIL	47 $\mu$ H	
L1331	CELP055-820Z	PEAKING COIL	82 $\mu$ H	
L1332	CELP055-3R9Z	PEAKING COIL	3.9 $\mu$ H	
L1701-02	CELP055-4R7Z	PEAKING COIL	4.7 $\mu$ H	
L1802	CELP055-2R2Z	PEAKING COIL	2.2 $\mu$ H	
DIODE				
D1001	MA3330(L)-W	ZENER DIODE		
D1262	RD9.1ES(B2)-T2	ZENER DIODE		
D1265	M1MA151K-W	CHIP DIODE		
D1271	M1MA151K-W	CHIP DIODE		
D1281-82	MA3068(M)-W	ZENER DIODE		
D1331-32	M1MA151K-W	CHIP DIODE		
D1335-36	MA152WK-W	SI.DIODE		
D1351-53	M1MA151K-W	CHIP DIODE		
D1354	MA165-T2	SI.DIODE		
D1355	MTZJ4.7(A)-T2	ZENER DIODE		
D1356	MA165-T2	SI.DIODE		
D1357	MTZJ4.7(A)-T2	ZENER DIODE		
D1358	MA165-T2	SI.DIODE		
D1359	MTZJ4.7(A)-T2	ZENER DIODE		
D1576-76	M1MA151K-W	CHIP DIODE		
D1651-52	RD33E(B1)-T2	ZENER DIODE		
D1701-02	MA3062(M)-W	ZENER DIODE		
D1703-04	M1MA151K-W	CHIP DIODE		
D1705-07	MA3068(M)-W	ZENER DIODE		
D1708-09	MA3062(M)-W	ZENER DIODE		
D1721	M1MA151K-W	CHIP DIODE		
D1723-24	M1MA151K-W	CHIP DIODE		
D1790-92	M1MA151K-W	CHIP DIODE		
D1797	MTZJ15(A)-T2	ZENER DIODE		
D1851-53	M1MA151K-W	CHIP DIODE		
D1871	MA152WK-W	DIODE		
D1872	M1MA151K-W	CHIP DIODE		
TRANSISTOR				
Q1101	2SC5083(L-P)-T	SI.TRANSISTOR		
Q1103	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1105	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1201	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1202	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1203-04	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1231-32	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1261	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1271	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1272	DTC323TK-W	DIGI.TRANSISTOR		
Q1331-34	2SC2412K(QR)-W	SI.TRANSISTOR		
Q1351-53	2SA1037K(QR)-W	SI.TRANSISTOR		
Q1374	2SC2412K(QR)-W	SI.TRANSISTOR		

△ Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q1375	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1385	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1386	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1443	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1471	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1472-74	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1561	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1562	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1575	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1576	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1651	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1681	DTA144TK-W	DIGI. TRANSISTOR		
Q1682-83	DTC323TK-W	DIGI. TRANSISTOR		
Q1701	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1801	2SA1037K(QR)-W	SI. TRANSISTOR		
Q1802-03	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1851	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1853-54	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1855	2SC3773(3-4)-W	SI. TRANSISTOR		
Q1856-58	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1871-76	2SC2412K(QR)-W	SI. TRANSISTOR		
Q1877	2SC3773(3-4)-W	SI. TRANSISTOR		
I C				
IC1101	LA7577N	I.C(MONO-ANA)		
IC1151	ATT1852ACT	I C		
IC1191	AN78L09-Y	IC		
IC1201	JCC1003B	I.C(MONO-ANA)		
IC1471	M51494L	I.C(MONO-ANA)		
IC1601	ATT1853CT	IC		
△ IC1651	MC13516T2	I.C(MONO-ANA)		
IC1681	BA15218N	I.C.(M)		
IC1701	MN1876466JKN1	I C		
IC1702	AT24C08/35BP5	IC (SERVICE)		
IC1703	MN1280-Q	I.C(DIGI-MOS)		
IC1791	AN78L05-Y	I.C.		
IC1801	LC7458B-04	IC		
IC1802	LA7945N	I.C(MONO-ANA)		
IC1803	MN1280-Q	I.C(DIGI-MOS)		
IC1871	AN5860	I.C.(M)		
△ IC1981	LM2940CT-12	I.C(MONO-ANA)		
△ IC1982	KIA7809PI	I C		
IC1983	AN78L05-Y	I.C.		
OTHERS				
CF1002	FTP47.25MA	CERAMIC TRAP		
CF1102	CE41505-001	CERAMIC FILTER		
CF1106	SFSH4.5MCB	CERAMIC FILTER		
CF1701	CST8.00MT	CER. RESONATOR		
CF1801	CSA12.0MT-Z	C RESONATOR		
CN1003	CHA401N-35P-J	HQF PLUG		
DL1201	CE42045-001	DELAY LINE		
DL1471	CE41360-001	DELAY LINE		
K1335	CE41433-001Z	BEADS CORE		
K1702-05	CE42050-001Z	CORE		
K1801-04	CE42050-001Z	CORE		
K1871	CE41433-001Z	BEADS CORE		
SF1101	CE41031-202	SAW FILTER		
SF1102	CE42377-201	SAW FILTER		
X1391	CE41651-001Z	X-TAL		

**POWER / DEF PW BOARD ASS'Y [SGM-2006A-H2 (AV-35BP5)]**

Regarding the POWER DEF PW Board Ass'y [ SGM-2506A-H2 ] for the model for canada, refer to page 4-40.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
R2410	QRX019J-R56S	MF R	0.56 Ω 1W	J
R2418	QRG019J-221S	OM R	220 Ω 1W	J
R2503	QRD123J-822SX	C R	8.2k Ω 1/2W	J
△ R2504	QRG039J-222A	OM R	2.2k Ω 3W	J
△ R2505	QRG039J-222A	OM R	2.2k Ω 3W	J
△ R2512	QRD121J-681SY	C R	680 Ω 1/2W	J
R2514	QRG039J-472A	OM R	4.7k Ω 3W	J
△ R2521	QRD149J-1R0S	C R	1 Ω 1/4W	J
△ R2522	QRX039J-3R3A	MF R	3.3 Ω 3W	J
△ R2523	QRD129J-4R7S	C R	4.7 Ω 1/2W	J
△ R2524	QRX039J-2R2A	MF R	2.2 Ω 3W	J
△ R2525	QRF074K-1R8	UNF R	1.8 Ω 7W	K
△ R2531	QRV141F-4991Y	MF R	4.99k Ω 1/4W	F
△ R2532	QRV141F-4701Y	MF R	4.7k Ω 1/4W	F
R2544	QRD123J-333SX	C R	33k Ω 1/2W	J
R2545	QRD123J-562SX	C R	5.6k Ω 1/2W	J
R2546	QRD123J-471S	C R	470 Ω 1/2W	J
R2547	QRG039J-330A	OM R	33 Ω 3W	J
△ R2901	QRC121K-275UZ	COMP.R	2.7M Ω 1/2W	K
△ R2905	QRF104K-1R0	UNF R	1 Ω 10W	K
R2909	QRD123J-274SX	C R	270k Ω 1/2W	J
R2911-12	QRX029J-R22A	MF R	0.22 Ω 2W	J
R2913-14	QRG039J-330	OM R	33 Ω 3W	J
R2915	QRG029J-330	OM R	33 Ω 2W	J
△ R2906	QRC121K-821Z	COMP.R	820 Ω 1/2W	K
R2916	QRD123J-821SX	C R	820 Ω 1/2W	J
R2917	QRD123J-153SX	C R	15k Ω 1/2W	J
R2918	QRD123J-181SX	C R	180 Ω 1/2W	J
R2931	QRD123J-121SX	C R	120 Ω 1/2W	J
R2937	QRG019J-152S	OM R	1.5k Ω 1W	J
△ R2938	QRG019J-223S	OM R	22k Ω 1W	J
△ R2940	QRZ009S-R39	UNF R	0.39 Ω	J
R2941	QRD123J-272SX	C R	2.7k Ω 1/2W	J
△ R2943	QRD123J-223SX	C R	22k Ω 1/2W	J
△ R2944	QRD161J-223Y	C R	22k Ω 1/6W	J
R2948	QRD123J-182SX	C R	1.8k Ω 1/2W	J
△ R2954	QRG029J-223	OM R	22k Ω 2W	J
<b>C A P A C I T O R</b>				
△ C2407	QETC1VM-107Z	E CAP.	100 μ F 35V	M
△ C2408	QETB1VM-108	E CAP.	1000 μ F 35V	M
C2410	QEM61EK-335MZ	E CAP.	3.3 μ F 25V	K
C2412	QFN32DJ-104J1	M CAP.	0.1 μ F 200V	J
C2417	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V	J
△ C2419	QETC1HM-476Z	E CAP.	47 μ F 50V	M
C2504	QETC2CM-105Z	E CAP.	1 μ F 160V	M
△ C2511	QFZ0117-2501S	MPP CAP.	2500 p F 1.4kVH ±2.5%	
△ C2512	QFZ0117-7701S	MPP CAP.	7700 p F 1.4kVH ±2.5%	
△ C2513	QFZ0117-6501S	MPP CAP.	6500 p F 1.4kVH ±2.5%	
△ C2514	QFP32GJ-223M	PP CAP.	0.022 μ F 400V	J
△ C2516	QFZ0119-624S	MPP CAP.	0.62 μ F 200V ±3%	
C2517	QETC2EM-225Z	E CAP.	2.2 μ F 250V	M
△ C2518	QCY32HK-561RZ	CH C CAP.	560 p F 500V	K
C2519-20	QEM61HK-475MZ	E CAP.	4.7 μ F 50V	K
△ C2521	QETB2EM-336	E CAP.	33 μ F 250V	M
△ C2522	QETB1VM-228	E CAP.	2200 μ F 35V	M
△ C2523	QETC1VM-107Z	E CAP.	100 μ F 35V	M
△ C2524	QETC1CM-477Z	E CAP.	470 μ F 16V	M
C2525	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V	J
△ C2526	QETB2CM-227	E CAP.	220 μ F 160V	M
C2528	QFN32DJ-222J1	M CAP.	2200 p F 200V	J
△ C2901	QCZ9029-103M	C CAP.	0.01 μ F 125V	M

△ Symbol No.	Part No.	Part Name	Description	Loca1
C A P A C I T O R				
△ C2902	QCZ9029-103M	C CAP.	0.01 $\mu$ FAC125V	M
△ C2903	QFZ9036-104M	M.F.CAP.	0.1 $\mu$ FAC250V	M
△ C2904	QFZ9036-104M	M.F.CAP.	0.1 $\mu$ FAC250V	M
△ C2911	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2912	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2913	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2914	QCZ9033-102A	C CAP.	1000 p FAC125V	K
△ C2915	QEZO145-687R	E CAP.	680 $\mu$ F 200V	
△ C2905	QFZ9036-104M	MF CAP.	0.1 $\mu$ F AC250V	M
C2918	QFZO121-272S	MPP CAP.	2700 p F	
C2920	QFN32DK-333J1	M CAP.	0.033 $\mu$ F 200V	K
C2921	QFN31HJ-272ZJ1	M CAP.	2700 p F 50V	J
C2922	QEHC2AM-107MZ	E CAP.	100 $\mu$ F 100V	M
C2923	QEHC1HM-336MZ	E CAP.	33 $\mu$ F 50V	M
C2931	QETC1VM-477Z	E CAP.	470 $\mu$ F 35V	M
△ C2932	QEZO179-337M	E CAP.	330 $\mu$ F 200V	
△ C2933	QETB1EM-228	E CAP.	2200 $\mu$ F 25V	M
△ C2906-09	QCZ9033-102A	C CAP.	1000pF AC250V	K
△ C2934	QETB1VM-228	E CAP.	2200 $\mu$ F 35V	M
△ C2936	QETC1EM-477Z	E CAP.	470 $\mu$ F 25V	M
C2937	QCZO132-152AZ	C CAP.	1500 p F 500V	K
△ C2940	QETC1CM-107Z	E CAP.	100 $\mu$ F 16V	M
C2945	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V	J
T R A N S F O R M E R				
T2501	CE42034-002J1	HOR DRIVE TRANS		
△ T2901	CE41741-001J1	POWER TRANSF		
△ T2902	CETS002-001J1	SW TRANSF		
C O I L				
△ L2501	CE40970-00A	LINEARITY COIL		
△ L2502	CELC052-821J7	CHOKE COIL		
△ L2503	CELC901-046J6	HEATER CHOKE		
△ L2931	CELC901-050J6	HEATER CHOKE		
△ L2932	CELC901-050J6	HEATER CHOKE		
D I O D E				
△ D2401	1N4003-T3	SI.DIODE		
D2402	RD75E(B)-T5	ZENER DIODE		
D2403	MA4043(M)-T2	ZENER DIODE		
D2407	1SS133-T2	SI.DIODE		
△ D2501	ERD07-15-L	SI.DIODE		
△ D2502	RU30-C1	SI.DIODE		
D2505	RU2-T3	SI.DIODE		
△ D2521	RH1S-T3	SI.DIODE		
△ D2522	RGP10J(C1)-T3	SI.DIODE		
△ D2523	1SS81-T2	SI.DIODE		
△ D2524	RU3AM-LFC4	SI.DIODE		
△ D2525	RGP10J(C1)-T3	SI.DIODE		
D2527	MA4082(M)-T2	ZENER DIODE		
△ D2528	MTZJ7.5S-T2	ZENER DIODE		
D2541	1SS133-T2	SI.DIODE		
△ D2901	D3SBA60	DIODE BRIDGE		
D2903-04	RGP10J(C1)-T3	SI.DIODE		
D2905	RD12E(B2)-T2	ZENER DIODE		
△ D2932	S1NB20	BRIDGE DIODE		
D2935-36	1SS133-T2	SI.DIODE		
D2937	RD12E(B3)-T2	ZENER DIODE		
△ D2941	RU4AM-C1	SI.DIODE		
△ D2942	RU4YX-C1	SI.DIODE		
△ D2943	RU4YX-C1	SI.DIODE		
△ D2944	MA4180(M)-T2	ZENER DIODE		
△ D2945	MA165-T2	SI.DIODE		
D2947	1SS133-T2	SI.DIODE		
△ D2948	MTZJ7.5S-T2	ZENER DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S I S T O R				
Q2501	2SC4212-C1	SI. TRANSISTOR		
△ Q2511	2SD2348-LB	SI. TRANSISTOR		
Q2541	2SA1309A(QR)-T	SI. TRANSISTOR		
Q2542	2SD1408(OY)-LB	POWER TRANSISTOR		
Q2543	2SA1309A(QR)-T	SI. TRANSISTOR		
△ Q2901	2SA933S(QR)-T	SI. TRANSISTOR		
Q2921	2SC1815(Y)-T	SI. TRANSISTOR		
△ Q2922	2SA949(Y)C1	SI. TRANSISTOR		
△ Q2923	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2924	SF0R3B42(C1)-T	S C R		
△ Q2925	2SC1815(Y)-T	SI. TRANSISTOR		
Q2926	2SA933S(QR)-T	SI. TRANSISTOR		
△ Q2927	2SC2785(JH)-T	SI. TRANSISTOR		
I C				
△ IC2401	AN78L09-Y	IC		
△ IC2421	LA7845	I C		
△ IC2901	STR-S6301	I.C(HYBRID)		
△ IC2921	SE135N	I.C(HYBRID)		
O T H E R S				
△ F2901	QMF0007-6R3J1	FUSE	6.3A/125V	
H2004	CM42862-00U-H	HEAT SINK ASSY		
K2401	CE41169-002J2	BEADS CORE		
K2901	CE41433-001Z	BEADS CORE		
K2902	CE42050-001Z	CORE		
K2931-33	CE42050-001Z	CORE		
△ LF2901	CELF005-001J2	LINE FILTER		
△ LF2902	CELF004-001J1	LINE FILTER		
△ PC2901	TLP621(GB)	I.C(PH COUPLER)		
△ RY2901	CESK023-001	RELAY		
S2401	QSL6A13-C01	LEVER SWITCH	V.CENTER	
TH2401	CEKN007-332Z	N.THERMISTOR		
△ TH2901	CEKP001-001J1	P.THERMISTOR		
△ VA2901	ERZ-C10VK361G	VARISTOR		

### POWER DEF PW BOARD ASS'Y [SGM-2506A-H2 (AV-35BP5(CA))]

Regarding the parts list for the power def PW board Ass'y [SGM-2506A-H2] of the model for Canada, only the different parts from those of the model [SGM-2006A-H2] are described. For further details regarding the other parts, refer to the parts list of the model [SGM-2006A-H2] described on page 4-38 through page 4-40.

△	SYMBOL No.	PART No.		PARTS NAME	REMARKS
		America Model [US] SGM-2006A-H2	Canada Model [CA] SGM-2506A-H2		
△	R2901	QRC121K-275UZ	QRC121K-275EZ	COMP R	

## CRT SOCKET PW BOARD ASS'Y [SGM-3006A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
△ R3001	QRZ0106-136	MG R	13MΩ 0.69W	M
△ R3114	QRD149J-100S	C R	10 Ω 1/4W	J
R3132	QRG029J-391A	OM R	390 Ω 2W	J
R3310-12	QRG029J-153	OM R	15kΩ 2W	J
R3313-15	QRG029J-183	OM R	18kΩ 2W	J
△ R3322	QRD149J-102S	C R	1kΩ 1/4W	J
△ R3323	QRD149J-102S	C R	1kΩ 1/4W	J
△ R3324	QRD149J-102S	C R	1kΩ 1/4W	J
△ R3361	QRC121K-105Z	COMP.R	1MΩ 1/2W	K
CAPACITOR				
C3107	QFN31HK-103ZJ1	M CAP.	0.01 μF 50V	K
△ C3113	QETC2CM-106Z	E CAP.	10 μF 160V	M
C3117	QETC2CM-106Z	E CAP.	10 μF 160V	M
C3118	QETC0JM-107Z	E CAP.	100 μF 6.3V	M
△ C3321	QETC2EM-105Z	E CAP.	1 μF 250V	M
△ C3361	QETC2EM-105Z	E CAP.	1 μF 250V	M
C3363	QCZ0121-102A	C CAP.	1000 pF 3000V	Z
COIL				
L3106	CELP055-150Z	PEAKING COIL	15 μH	
L3301-03	CELP055-180Z	PEAKING COIL	18 μH	
L3304-06	CELP055-470Z	PEAKING COIL	47 μH	
DIODE				
D3105-06	RH1S-T3	SI.DIODE		
D3107	MA165-T2	SI.DIODE		
D3301-03	MA165-T2	SI.DIODE		
D3304-06	1SS244-T2	SI.DIODE		
D3313-15	MA165-T2	SI.DIODE		
D3361	RM2C-LFA1	SI.DIODE		
TRANSISTOR				
Q3103	2SA1309A(QR)-T	SI.TRANSISTOR		
Q3104-05	2SC3311A(QR)-T	SI.TRANSISTOR		
Q3106	2SA1309A(QR)-T	SI.TRANSISTOR		
Q3107	2SA1306(Y)	SI.TRANSISTOR		
Q3108	2SC3298(Y)	SI.TRANSISTOR		
Q3109	2SC3311A(QR)-T	SI.TRANSISTOR		
Q3110	2SC1906-T	SI.TRANSISTOR		
Q3301-03	2SC4502-T	SI.TRANSISTOR		
Q3304-06	2SC4544-C1	SI.TRANSISTOR		
Q3307-09	2SA1321-T	SI TRANSISTOR		
△ Q3310	2SC3334-T	SI TRANSISTOR		
△ Q3311	2SC3334-T	SI TRANSISTOR		
△ Q3312	2SC3334-T	SI TRANSISTOR		
Q3313-15	2SC2458(GR)-T	TRANSISTOR		
Q3316	2SA1048(GR)-T	TRANSISTOR		
OTHERS				
K3102-05	CE41492-001Z	CHOKE COIL		
△ R3122	QRH017J-561M	F R	560 Ω 1W	J
△ SK3001	CE42446-001	CRT SOCKET		



## CONTROL PW BOARD ASS'Y [SGM-4004A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D4715	SEL1210S	L.E.D.(RED)		
I C				
IC4841	GP1U771R	IFR DETECT UNIT		
O T H E R S				
S4702	QSP1A11-C20Z	PUSH SWITCH	CH UP	
S4703	QSP1A11-C20Z	PUSH SWITCH	CH DOWN	
S4704	QSP1A11-C20Z	PUSH SWITCH	FUNCTION	
S4705	QSP1A11-C20Z	PUSH SWITCH	VOL UP	
S4706	QSP1A11-C20Z	PUSH SWITCH	VOL DOWN	
S4707	QSP1A11-C20Z	PUSH SWITCH	POWER	

## AV TERMINAL PW BOARD ASS'Y [SGM-8004A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
V A R I A B L E   R E S I S T O R				
R8209	QVPC627-102MZ	TRIM. R(COMB LEVEL1)	1k $\Omega$ B	
R8215	QVPC627-102MZ	TRIM. R(COMB LEVEL2)	1k $\Omega$ B	
R8219	QVPC627-502MZ	TRIM. R(COMB PHASE2)	5k $\Omega$ B	
R E S I S T O R				
R8105	QRD123J-221SX	C R	220 $\Omega$ 1/2W J	
R8108	QRD123J-221SX	C R	220 $\Omega$ 1/2W J	
R8109	QRD123J-222SX	C R	2.2k $\Omega$ 1/2W J	
R8607-08	QRD123J-102SX	C R	1k $\Omega$ 1/2W J	
C A P A C I T O R				
C8101	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C8102-04	QEK1CM-106GMZ	E CAP.	10 $\mu$ F 16V M	
C8106-07	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C8109-10	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C8118	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	
C8119	QEK1CM-226GMZ	E CAP.	22 $\mu$ F 16V M	
C8120	QEK1CM-107MZ	E CAP.	100 $\mu$ F 16V M	
C8121	QEP1CM-106MZ	BP E CAP.	10 $\mu$ F 16V M	
C8122	QEK1CM-107MZ	E CAP.	100 $\mu$ F 16V M	
C8124	QEK1CM-107MZ	E CAP.	100 $\mu$ F 16V M	
C8125	QEU61AM-108MZ	E CAP.	1000 $\mu$ F 10V M	
C8201	NCT03CH-5R0AY	CHIP CAP.	5 pF 1600V H	
C8202	QEN60JM-107Z	BP E CAP.	100 $\mu$ F 6.3V M	
C8203	NCT03CH-8R0AY	CHIP CAP.	8 pF 1600V H	
C8204	QEK1CM-476MZ	E CAP.	47 $\mu$ F 16V M	
C8207-08	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C8211	QEK1CM-336MZ	E CAP.	33 $\mu$ F 16V M	
C8212	NCS21HJ-121AY	CHIP C CAP.	120 pF 50V J	
C8213-14	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C8215	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	
C8216	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	
C8217	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	
C8218	QEK1HM-105GMZ	E CAP.	1 $\mu$ F 50V M	
C8219	QEN61CM-336Z	BP E CAP.	33 $\mu$ F 16V M	
C8601-04	QEK1HM-105GMZ	E CAP.	1 $\mu$ F 50V M	
C8605-08	NCT03CH-101AY	CHIP CAP.	100 pF 1600V H	
C8609-10	NCT03CH-271AY	CHIP CAP.	270 pF 1600V H	
C8612-13	QEP1EM-335MZ	BP E CAP.	3.3 $\mu$ F 25V M	
C8614-16	QEK1HM-105GMZ	E CAP.	1 $\mu$ F 50V M	
C8618	QEK1HM-105GMZ	E CAP.	1 $\mu$ F 50V M	
C8621	QEK1CM-107MZ	E CAP.	100 $\mu$ F 16V M	

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C8622	QEK C1CM-106GMZ	E CAP.	10 $\mu$ F 16V M	
C8630-31	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	
C8632	QEK C1CM-476MZ	E CAP.	47 $\mu$ F 16V M	
TRANSFORMER				
T8201	CE41301-001J1	BAND PASS FILTER		
T8202	CE40176-001J1	DL P TRANSF		
COIL				
L8201	CELP055-220Z	PEAKING COIL	22 $\mu$ H	
L8203	CELP055-220Z	PEAKING COIL	22 $\mu$ H	
L8204	CELP055-5R6Z	PEAKING COIL	5.6 $\mu$ H	
DIODE				
D8101-04	MA3120-W	ZENER DIODE		
D8106	MA3120-W	ZENER DIODE		
D8201	M1MA151K-W	CHIP DIODE		
D8601-04	MA3120-W	ZENER DIODE		
D8605-09	M1MA151K-W	CHIP DIODE		
D8620-23	MA3068(M)-W	ZENER DIODE		
D8630-33	MA3068(M)-W	ZENER DIODE		
D8640-43	MA3068(M)-W	ZENER DIODE		
TRANSISTOR				
Q8101-03	2SA1037K(QR)-W	SI. TRANSISTOR		
Q8201-05	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8206	2SA1037K(QR)-W	SI. TRANSISTOR		
Q8207-10	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8601-02	DTC363TK-W	DIGI. TRANSISTOR		
Q8603	DTA144TK-W	DIGI. TRANSISTOR		
Q8604-05	DTC363TK-W	DIGI. TRANSISTOR		
Q8606	DTA144TK-W	DIGI. TRANSISTOR		
Q8607	2SC2412K(QR)-W	SI. TRANSISTOR		
Q8608	2SA1037K(QR)-W	SI. TRANSISTOR		
I C				
IC8101	CXA1545AS	I. C (MONO-ANA)		
IC8102	AN78L09-Y	IC		
OTHERS				
△	CM22763-C02-VH	TERMINAL BOARD		
	SBSB3010M	TAPPING SCREW	×5	
CN8003	CHA401N-35R-J	HQF SOCKET		
DL8201	CE42456-002	DELAY LINE		
DL8202	CE42345-001	DELAY LINE		
J8801	CEMN057-001	PIN JACK		
J8802	AX49607-024	MINI JACK		
J8803	CEMN045-001	PIN JACK		
J8804	QMCC008-C01	DIN JACK		
J8805-06	CEMN073-001	PIN JACK		
J8807-08	AX49607-020	MINI JACK		
J8809	CEMT016-001	TERMINAL		
S8801	QSS1F23-C06	SLIDE SWITCH	MAIN/SURROUND1&2	

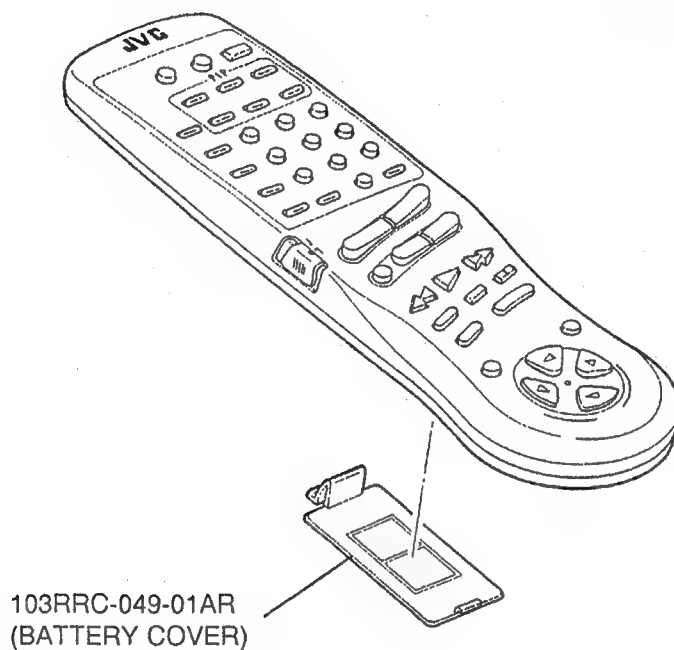
## DBF PW BOARD ASS'Y [SGM-9201A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R9504	QVPA803-503M	V R(HORIZONTAL MODULATION)	50k $\Omega$ B	
RESISTOR				
R9553	QRZ0039-562	COMP.R	5.6k $\Omega$	
CAPACITOR				
C9501	QFN32DJ-683J1	M CAP.	0.068 $\mu$ F 200V J	
C9502	QETC2AM-106Z	E CAP.	10 $\mu$ F 100V M	
C9503	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
△ C9512	QFZ0117-1002S	MPP CAP.	0.01 $\mu$ F 1.4kVH $\pm$ 2.5%	
△ C9515	QFZ0117-1001S	MPP CAP.	1000 p F 1.4kVH $\pm$ 2.5%	
C9517	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V J	
△ C9520	QCZ0133-102A	C CAP.	1000 p F 10 kV	
TRANSFORMER				
△ T9501	CE41576-00AJ1	H PICKUP TRANSF		
DIODE				
D9501-02	1SS81-T2	SI.DIODE		
△ D9504	ES1F-LFG2	SI.DIODE		
D9506	1SS133-T2	SI.DIODE		
△ D9509	ES1F-LFG2	SI.DIODE		
D9511	1SS133-T2	SI.DIODE		
TRANSISTOR				
Q9501-02	2SC1740S(QR)-T	SI.TRANSISTOR		
Q9508	2SA933S(QR)-T	SI.TRANSISTOR		
Q9509	2SC1740S(QR)-T	SI.TRANSISTOR		
Q9510	2SC4256	SI.TRANSISTOR		
△ Q9511	2SC4256	SI.TRANSISTOR		
Q9515	2SA933S(QR)-T	SI.TRANSISTOR		
Q9516-17	2SC1740S(QR)-T	SI.TRANSISTOR		
I C				
IC9501	AN78L12-Y	I C		
OTHERS				
△ FR9539	QRH127J-101M	F R	100 $\Omega$ 1/2W J	
SG9501	CE42447-302	ARRESTOR		

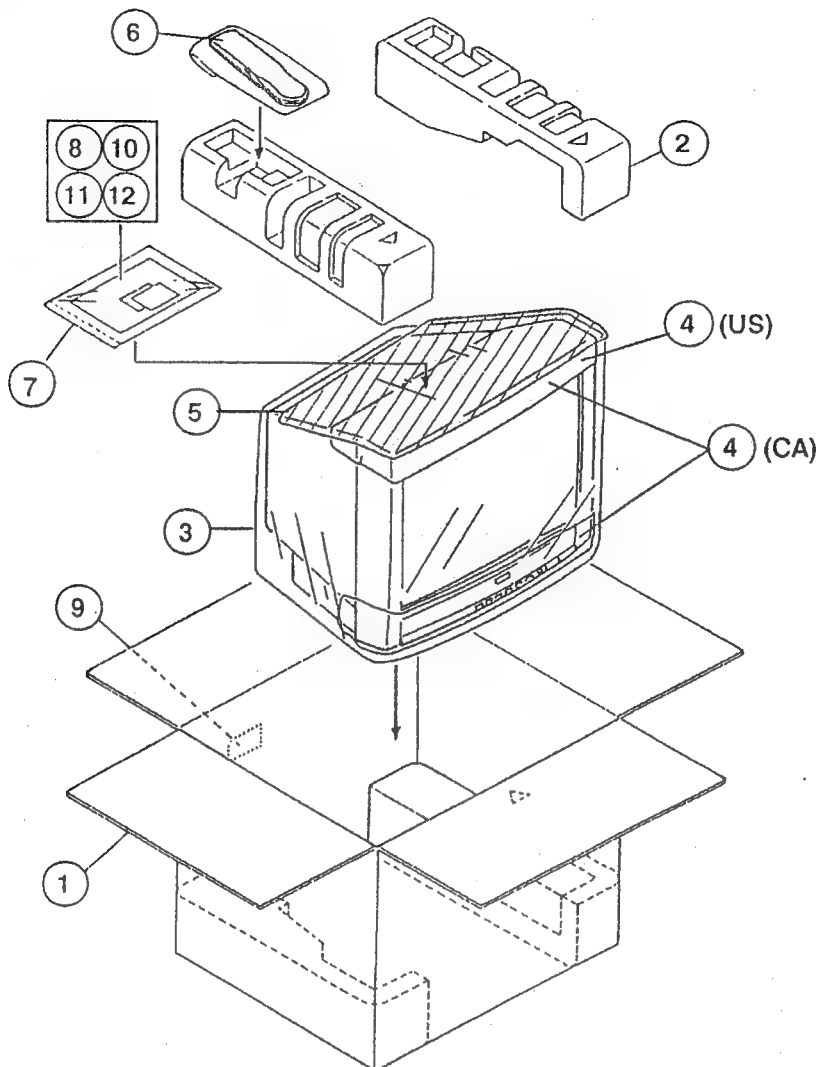
PIP MODULE PW BOARD ASS'Y [SGM-P001A-H2 (AV-35BP5)]

△ Symbol No.	Part No.	Part Name	Description	Local
	SGM-P001A-H2	PIP MODULE		

REMOTE CONTROL UNIT [RM-C723-01-A (AV-35BP5)]



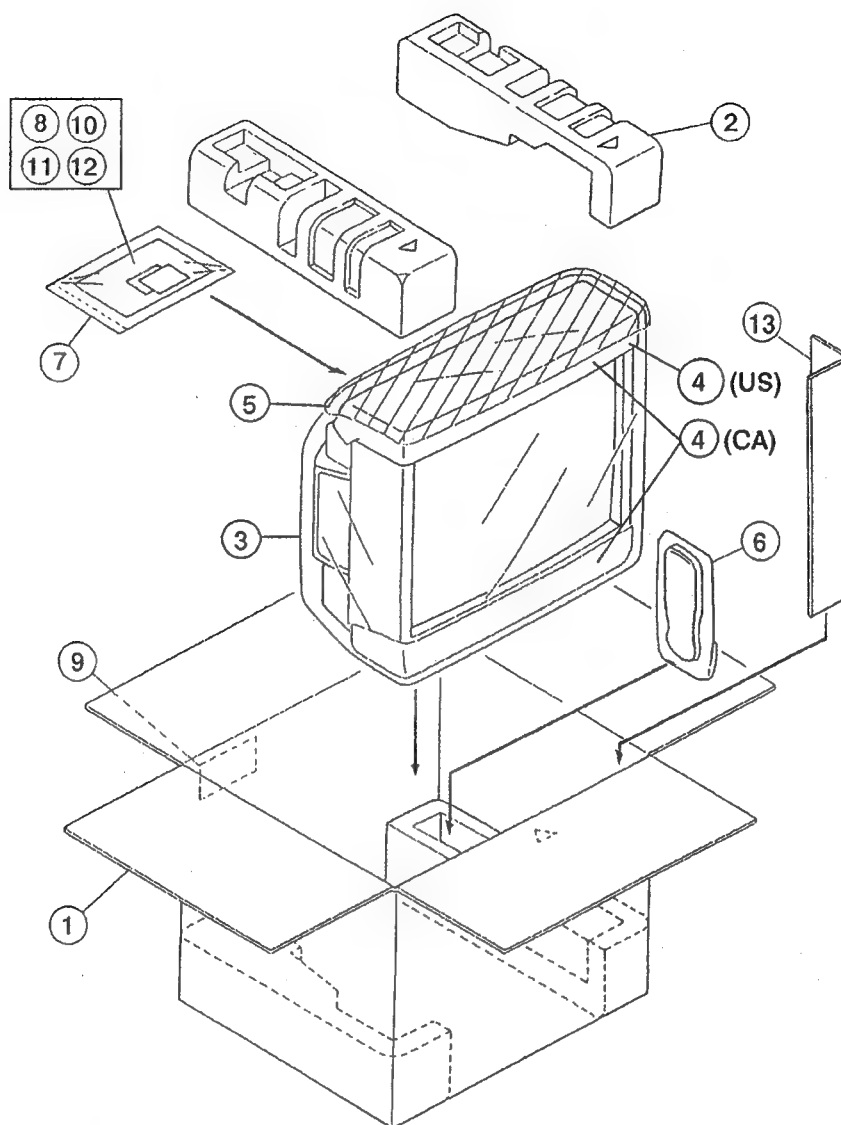
## PACKING [AV-27/31BP5 , AV-31BM5]



## PACKING PARTS LIST [AV-27/31BP5 , AV-31BM5]

△ Ref.No.	Part No.	Part Name	Description	Local
1	CP10972-082-A	PACKING CASE	(AV-27BP5)	*
1	CP10972-083-A	PACKING CASE	(AV-31BP5, 31BM5)	*
2	CP11242-A0B-A	CUSHION ASSY	(AV-27BP5)	*
2	CP11251-0AB-A	CHSHION ASSY	(AV-31BP5, BM5)	*
3	CP30056-002-A	POLY BAG	(AV-27BP5)	*
3	CP30056-004-A	POLY BAG	(AV-31BP5, BM5)	*
4	CP30055-001-A	TOP COVER	(AV-27BP5(US))	*
4	CP30055-001-A	TOP COVER	(AV-27BP5(CA))(×2)	*
4	CP30055-002-A	TOP COVER	(AV-31" (US))	*
4	CP30055-002-A	TOP COVER	(AV-31" (CA))(×2)	*
5	CP30341-001-A	PROTECT SHEET	(CA)	*
6	RM-C723-01-A	REMOCON UNIT	(AV-27BP5, 31BP5)	*
6	RM-C722-01-A	REMOCON UNIT	(AV-31BM5)	*
7	CM30751-010	POLY BAG		
△ 8	273135P5UIBA-A	INST BOOK	(US)	*
△ 8	273135P5CIBA-A	INST BOOK	(CA)	*
9	CM31900-00A-A	REC KEEPING CARD	(US)	*
10	BT-51006-2-A	REGIST. CARD	(US)	*
11	BT-20025L-A	WARRANTY CARD	(CA)	*
12	BT-20071B-A	SVC CENTER LIST	(CA)	*

## PACKING [AV-35BP5]



## PACKING PARTS LIST [AV-35BP5]

△ Ref.No.	Part No.	Part Name	Description	Local
1	CP10972-084-A	PACKING CASE		*
2	CP10780-B0A-A	CUSHION ASSY	4pcs in 1set	*
3	CP30093-003-A	POLY BAG		*
4	CP30055-002-A	TOP COVER	(US)	*
4	CP30055-002-A	TOP COVER	(CA)(×2)	*
5	CP30341-001-A	PROTECT SHEET	(CA)	*
6	RM-C723-01-A	REMOCON UNIT		*
7	CM30751-010	POLY BAG		*
△ 8	273135P5UIBA-A	INST BOOK	(US)	*
△ 8	273135P5CIBA-A	INST BOOK	(CA)	*
9	CM31900-00A-A	REC KEEPING CARD	(US)	*
10	BT-51006-2-A	REGIST. CARD	(US)	*
11	BT-20025L-A	WARRANTY CARD	(CA)	*
12	BT-20071B-A	SVC CENTER LIST	(CA)	*
13	CP30801-003-A	SUPT CORNER	(×4)	*





# JVC

# SERVICE MANUAL

## COLOR TV

AV-27BP5<sub>(US/CA)</sub> / AV-31BP5<sub>(US/CA)</sub>

BASIC CHASSIS

AV-31BM5<sub>(US/CA)</sub> / AV-35BP5<sub>(US/CA)</sub>

GM

Supplementary

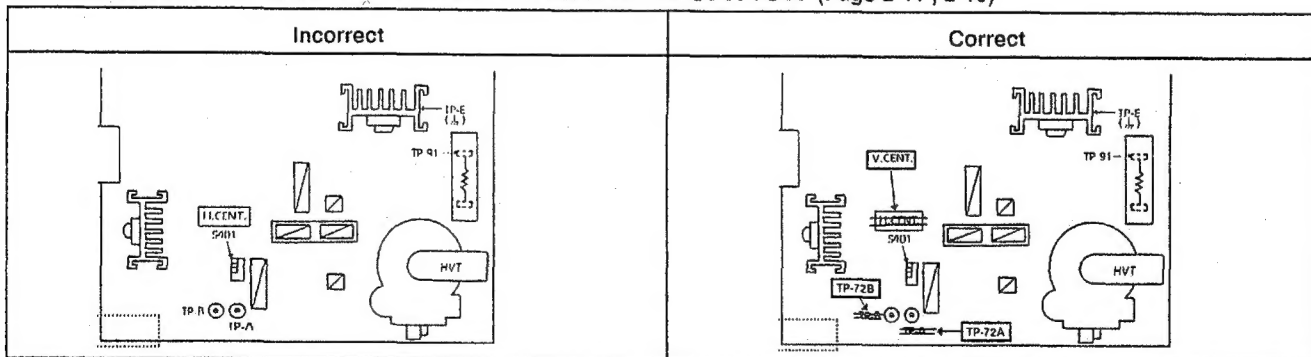
Since some details of the AV-27/31/35BP5, AV-31BM5 service manual (No.50850, Jul. 1994) were incorrect, we are informing you of these errors and of the correct descriptions.

### CORRECTED ITEMS

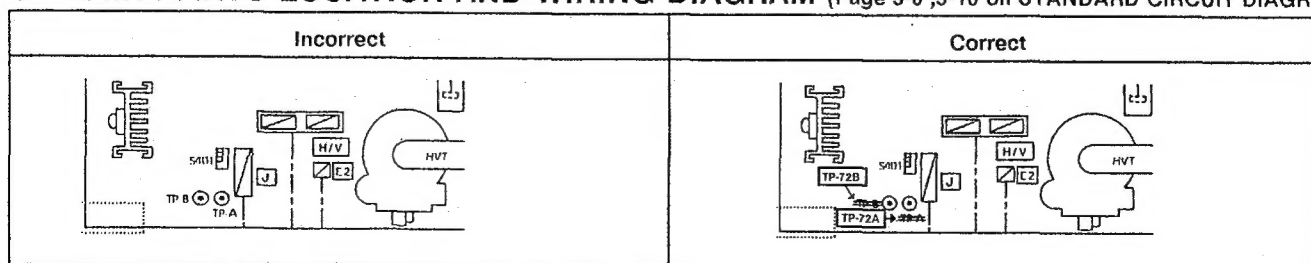
#### 1. SPECIFICATION (AV-27BP5, Page 2-2)

Item	Incorrect content	Correct content
High Voltage	31.0kV $\pm$ 1.3kV (at zero beam current)	31.0kV +1.0 / -1.3 kV (at zero beam current)

#### 2. MEMORY IC & ADJUSTMENT PARTS LOCATION (Page 2-11, 2-15)



#### 3. MAIN PARTS LOCATION AND WIRING DIAGRAM (Page 3-6, 3-10 on STANDARD CIRCUIT DIAGRAM)



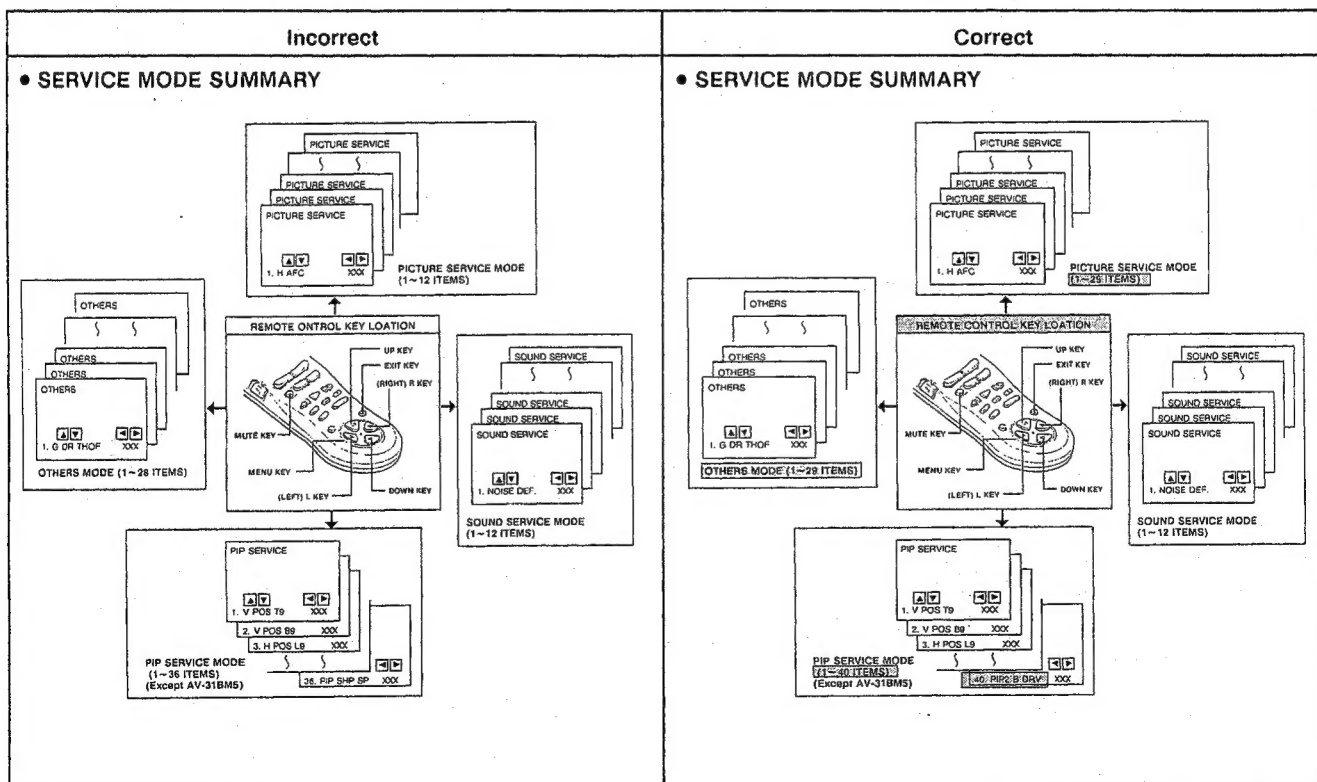
#### 4. TABLE 1 (User setting) (Page 2-12)

Incorrect		Correct	
CHANNEL SUMMARY	Receive memory set channel mode A Stations [02 — CBS] [04 — NBC] [07 — ABC]	CHANNEL SUMMARY	Receive memory set channel mode A <del>mode A</del> Stations <del>[02 — CBS]</del> <del>[04 — NBC]</del> <del>[07 — ABC]</del>
CLOSED CAPTION	CAPTION CC1 TEXT T1 BACKGROUND BLACK Factory setting : off	CAPTION : CC1 TEXT : T1 BACKGROUND : BLACK <del>Factory setting : off</del>	
3. Others	SELF CHECK All clear	<del>3. Others</del> <del>SELF CHECK All clear</del>	

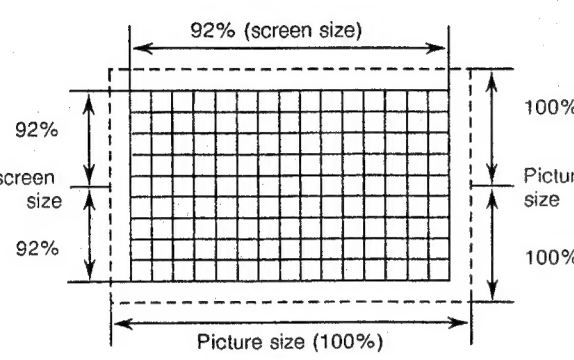
Incorrect					Correct				
NOTCH	OFF	OFF	OFF	OFF	NOTCH	OFF	OFF	OFF	OFF
LIVE EFFEX	OFF	OFF	OFF	OFF	LIVE EFFEX	OFF	OFF	OFF	OFF
VM (AV-35BP5)	ON	ON	ON	OFF	<del>VM (AV-35BP5)</del>	<del>ON</del>	<del>ON</del>	<del>ON</del>	<del>OFF</del>

**DELETE**

#### 5. SERVICE ADJUSTMENT PROCEDURE AND RELEASE (Page 2-17)



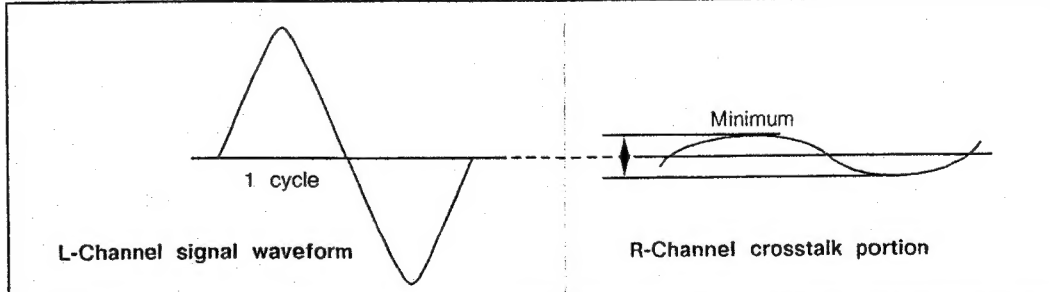
# PICTURE SERVICE MODE ADJUSTMENT (Page 2-22)

Item	Measuring instrument	Test point	Adjustment part	Description
V. HEIGHT V. LIN. V. POSI. adjustment	PATTERN GENERATOR		4. V. SHIFT 5. V. SIZE 6. V. LIN V. CENTER SW (S1401) [POWER/DEF.PWB] 12. V.S CORRE	<ol style="list-style-type: none"> <li>Supply a crosshatch signal input.</li> <li>With the remote controller, confirm the 4. V. SHIFT value is 15 (this value is fixed at 15 and must not be moved).</li> <li>With the remote controller, adjust 6. V. LIN so that the picture is symmetrical top to bottom.</li> <li>Align the vertical center with the V. CENTER switch of the Main PWB.</li> <li>With the remote controller, adjust 5. V. SIZE to set the vertical amplitude so that 92% of the overall crosshatch is displayed on the screen.</li> <li>As required, repeat above steps 2~5.</li> </ol>
				
WHITE BALANCE (Low Light) adjustment	PATTERN GENERATOR		15. DYNAMIC WH 16. G CUT OFF 17. B CUT OFF	<ol style="list-style-type: none"> <li>With the remote controller, set 15. DYNAMIC WH is 0.</li> <li>With the remote controller, Supply a greyscale signal (luminance only stairstep waveform) input.</li> <li>With the remote controller, adjust 16. G CUTOFF and 17. B CUTOFF to set the white balance to where the greyscale signal to nearly black (dark direction).</li> <li>Return 15. DYNAMIC WH to 1.</li> </ol>

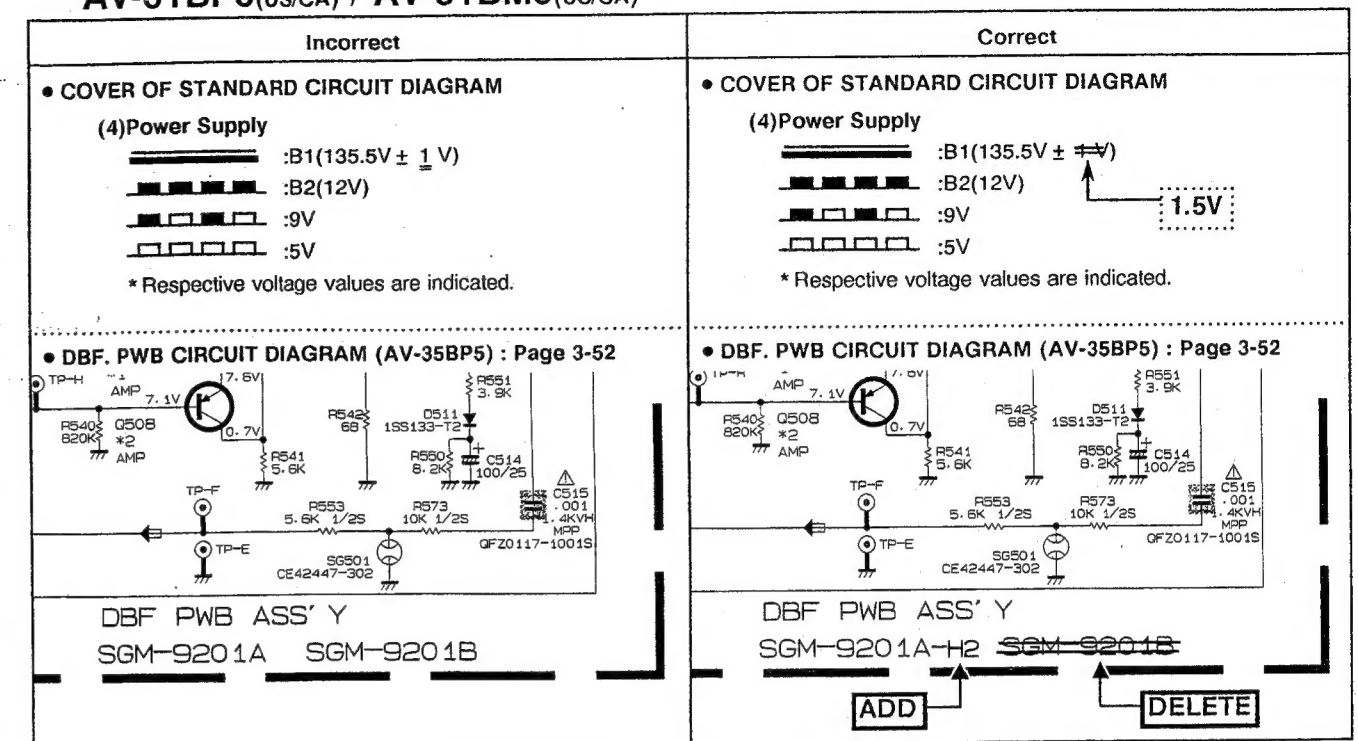
# PIP SERVICE MODE ADJUSTMENT (Except AV-31BM5) (Page 2-26)

Item	Measuring instrument	Test point	Adjustment part	Description
PIP CONTRAST adjustment			30. PIP1 CONT. <del>33. PIP2 CONT.</del>	<ol style="list-style-type: none"> <li>Receive a broadcast.</li> <li>Display the PIP picture.</li> <li>Adjust 30. PIP1 CONT for the same optimum picture as the main picture.</li> <li>Use the remote controller SWAP key to interchange the main and PIP pictures.</li> <li>Adjust <del>33. PIP2 CONT</del> for optimum picture.</li> </ol>
PIP TINT & COLOR adjustment			28. PIP1 TINT 29. PIP1 COLOR <del>31. PIP2 TINT</del> <del>32. PIP2 COLOR</del>	<ol style="list-style-type: none"> <li>Receive a broadcast.</li> <li>Display the PIP picture.</li> <li>Adjust 28. PIP1 TINT and 29. PIP COLOR for the same optimum picture as the main picture.</li> <li>Use the remote controller SWAP key to interchange the main and PIP pictures.</li> <li>Adjust <del>31. PIP2 TINT</del> and <del>32. PIP2 COLOR</del> for optimum picture.</li> </ol>

# SOUND SERVICE MODE ADJUSTMENT (Page 2-24)

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL adjustment			2. INPUT LVL <del>DELETE</del>	1. Confirm 2. INPUT LVL is at the reference value.
MTS ST VCO adjustment			<del>3. FM MONITOR</del> 4. STEREO VCO <del>DELETE</del>	<ol style="list-style-type: none"> <li>Confirm 4. STEREO VCO is at the standard adjustment value.</li> <li>Correctly receive a stereo broadcast and confirm absence of abnormal sound or other problems.</li> <li>If not normal, line adjust the reference value.</li> </ol>
MTS FILTER adjustment			<del>5. PILOT CANG</del> <del>6. B&amp;X FILTER</del>	<ol style="list-style-type: none"> <li>Confirm <del>5. PILOT CANG</del> and 6. FILTER is at the standard reference value.</li> <li>Correctly receive a stereo broadcast and confirm absence of abnormal sound or other problems.</li> <li>If not normal, line adjust the reference value.</li> </ol>
MTS SEPA. adjustment	OSCILLOSCOPE		7. LOW F SEPA 8. HIGH F SEPA	<ol style="list-style-type: none"> <li>Set the TV multichannel sound signal generator for generating stereo signal and output signal of about 300Hz from the left channel.</li> <li>Connect an oscilloscope to the "L" output and obtain a clear view of 1- cycle portion of 300Hz waveforms.</li> <li>Change connection of the oscilloscope to the "R" output and expand the voltage axis.</li> <li>Adjust the 7. LOW F SEPA and minimize the <del>3kHz</del> crosstalk portion.</li> <li>Next set the signal for 3 kHz and in the same manner, adjust 8. HIGH F SEPA.</li> </ol>
				
MTS SAP VCO adjustment			<del>9. SELF MONITOR</del> 10. SAP VCO	<ol style="list-style-type: none"> <li>Confirm 10. SAP VCO is at the reference value.</li> <li>Confirm an SAP broadcast can be received normally.</li> <li>If not normal, line adjust the reference value.</li> </ol>

# 6. AV-27BP5(US/CA) / AV-35BP5(US/CA) AV-31BP5(US/CA) / AV-31BM5(US/CA) STANDARD CIRCUIT DIAGRAM



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